WPP 001/4 FIA 3,5b

4. Edition

VA 4/110 H 1250 CL 136-6 0 460 314 034

estoil iSO 4113

supersede 11.79

company Fiat engine 8045-04270

Nozzle-and-holder assembly 1 688 901 020 (172 + 3 bar)

All test specifications are valid for Bosch Fuel Injection Pump Test Benchas

Pre stroke setting 0.5 min \pm 0.02 (\pm 0.04) Setting of the pointer at a stroke af 1.0 mm in relation to outlet "A".

and Testers Test Intructions and Test Equipment **VDT WPP 161/4 B**

Pre-setting see reverse side

1. Settings	rev/min	Settings		Charge air press kp/cm	Difference in delivery cm '
1.1 Timing device travel	1000	4,7-5,5	mm		
1.2 Supply pump pressure	1000	5, 3-5, 8	kp/cm²		
1.3 Full load delivery without charge air pressure	1200	70,0-73,0	cra ³ /1000 strokes		2,5
Full load delivery with charge air pressure			cm ¹ /1000 strokes		
1.4 Idle speed regulation	300	22,0-28,0	cm ³ /1000 strokes		3,0
1 5 Start	100	mind.110,0	cm³/1000 strokes		
1.6 Full-load speed regulation	1400	26,0-34,0	cm ³ /1000 strokes		

2.1 Timing device	rev/min	700	1000	1250
	mm	1,5-2,5(1,2-2,8)	(5,0-6,1)	6, 2-6,7(5, 9-7,0)
2 2 Supply nump	rev/min	200	1000	1100-1250
	kp/cm ⁻	1,5-2,0(1,3-2,2)	(5,1-6,0)	6,1-6,8(5,9-7,0)
Overflow delivery	rev/min	500		1250
	cm 1/10 s	55-100(40-110)		55-100(40-110)

2 2	E	deliveries	
43	ruei	OGNACIES	b

Speed control lever	Delivery lever	rev/min	cm ¹ /1000 strokes	•	Charge air pressure kp/cm
End stop Full	Full	1460-1510 (1440-1530) 1400 1200 800 500		(25,0-35,0) (69,0-74,0) (70,0-72,0) (61,0-66,0)	
	Stop	1250	0		
idle stop	Full	400-450 (380-470) 300	0	(21,0-29,0)	
End stop	Start	100	mind. 110,0		

Angle to the stop-piate	Pre-setting dimensions		
Pump a = 25 ± 4° b = 35 ± 8° c = 30 - 8° d = 60 + 8°	Pump Dimension IV= 3,60 mm Dimension V= 24,65 mm		

2. Test Specifications checking values in brackets (

46

WPP 001/4 REN 2,0 b 4. Edition

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VE 4/9 F 2250 R 41 0 460 494 027 Overflow temperature 45° C

supersedes 5.84 company: Renault

engine: 852

All test specifications are valid only for Bosch Fuél-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

see VDT-W-460/...

Pre-stroke setting m

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1400	4,4-4,8	mm		
1.2 Supply-pump pressure	1400	4,9-5,5	bar (kgf/cm²)		
1.3 Full-load delivery with charge-air pressure	-	-	cm³/1000 strokes		
Full-load delivery without charge-air pressure	1400	38,5-39,5	cm³/1000 stroķes		2,5 (3,0)
1.4 Idle regulation	400	7,5-11,5	cm ³ /1000 strokes		2,5 (3,0)
1.5 Full-speed regulation	2400	17,0-23,0	cm ³ /1000 strokes		
1.6 Start	100	min. 52,0	cm ³ /1000 strokes		
1.7 Load-dependent port-closing	1400				

2.1 Timing device	n = rev/min	1000	1400	200	10
	mm		(3,9-5,3)	6,7-7,5 (6,4-7,8)	
2.2 Supply pump	n = rev/min bar (kgf/cm²)	1000 3,9-4,5		2000 6,5-7,1	
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138 (40-153)	55-	2250 138 (40-153	3)
2.3 Fuel deliveries		·		3. Dimen	Sions for assembly
Speed control lever	Rot. speed rev/min	Fuel delivery cm³/1000 strokes	Charge-air press. bar (kgf/cm²)	Designation	and adjustment mm
End stop	2550 2400 2200 2100 1400 1000	max. 2,0 (16,0-24, 31,4-33,4(30,1-34, 32,7-34,7(31,4-35, (36,7-41, 35,8-38,8(34,3-40,	,7) ,9) ,2)	K KF MS SVS	3,2-3,4 5,7-5,9 1,4-1,6 max. 3,5
switch-off	2250	0		A XK	20,1-22,1
idle stop	650 400	max. 5,0 (5,5-1	3,5)	Observations	
End stop	320 430	min. 45,0 max. 45,0			
2.4 Solenoid	max. cut-in voltage	xx min. 10.0 V rated voltage 12V.			

BOSCH

WPP 001/4 VWW 1,6 b 1

3. Edition

VE 4/9 F 2400 R 66 0 460 494 048

Pre-stroke setting

Overflow temperature 45° C

supersedes 1.83 VWW engine: 1,6 L

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

mm see VDT-W-460/.

1. Settings	Rot. speed Settings rev/min		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ²	
1.1 Timing device travel	1500	2,9-3,3	mm		
1.2 Supply-pump pressure	1500	4,9-5,5	bar (kgf/cm²)		
1.3 Full-load delivery with charge air pressure Full-load delivery without	1500	31,5-32,5	cm ³ /1000 strokes		2,5(3,0)
charge-air pressure 1.4 Idle regulation	415	6,6-10,0	cm ³ /1000 strokes		2,5(3,0)
1.5 Full-speed regulation	2600	11,0-17,0	cm ³ /1000 strokes		
1.6 Start	100	min. 35,0	Cut-A 1000 Strokes		
1.7 Load-dependent port-closing	-			1	

2.1 Timing device	n = rev/min	1000	1500		2400
	mm	1,3-2,1 (1,0-2,4)	(2,4-3,8)	6,1-6,9	(5,8-7,2)
2.2 Supply pump	n = rev/min	400		_	2400
	bar (kgf/cm²)	2,1-2,7			,0-7,6
Overflow delivery	n = rev/min	500	- •	/	2400
	cm ³ /10 s	55-138 (40-15	·3)	55-138 (4	· · · · · · · · · · · · · · · · · · ·
2 3 Fuel deliveries				3. Dimen	for assembly
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes	Charge-air press bar (kg1/cm²)	Designation	and adjustment mm
End stop	2700	2,5-9,5 (2,0-10,0)		к	
	2600	(10,0-18,0)		KF	3,2-3,4 5,7-5,9
	2400 1500	27,0-29,0(25,7-30,3)		1	
		, , , , ,	i 1	MS	1,3-1,5
	600	20,5-23,5(18,0-26,0)	' <u> </u>	svs	max. 2,5
				FH*)	1,8 - 2,4
switch-off				1 % K	18,4-20,4
elektr.	400	0		₹ L	9,1-12,9
idle stop	1200	max. 3,0		Observations	
• •	600	max. 6.0		*operat	ing
	415	(4,0-12,0)		stroke	J
End stop	400 500	min. 17,0 max. 22,5		JUIORE	(1,50)
2.4 Solenoid	max. cut-in volta	r xx min. 10 V			
	I CONTROL OF THE PROPERTY OF T	rated voltage 12V.			

46

WPP 001/4 REN 2,0 d 4. Edition

<u>n</u>

VE 4/9 F 2200 R 69

Overflow temperature 45° C

supersedes

company: engine Renault J 8 S - 702

01.84

0 460 494 055

Pre-stroke setting

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

see VDT-W-460/...

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1400	4,0-4,4	mm	0,735	
•	1400	5,1-5,7	bar (kgf/cm²)	0,735	
1.2 Supply-pump pressure 1.3 Full-load delivery with	1400	49,5-50,5	cm³/1000 strokes	0,735	2,5 (3,0
charge-air pressure Full-load delivery without	600	35,0-36,0	cm ³ /1000 strokes	0	
charge-air pressure 1 4 Idle regulation	350	9,0-13,0	cm³/1000 strokes	0	2,5 (3,0
1 5 Full-speed regulation	2400	23,0-29,0	cm³/1000 strokes	0,735	
1 6 Start	100	min. 60,0	cm ³ /1000 strokes	0	
1.7 Load-dependent port-closing	_	_			

2. Test Spe	ecifications	checking values in brackets ()		
2.1 Timing device	n = rev/min	1000	1400	1800	2000
	mm	1,9-2,7(1,6-3,0)	(3,5-4,9)	5,7-6,5	(5,4-6,8)6,2-7,0(5,9-
2.2 Supply pump	n = rev/min	400		1800	
•	bar (kgf/cm²)	1,9-2,5	6	3-6,9	
Overflow delivery	n = rev/min	500			2200
·	cm³/10 s	55-138 (40-153)			55-138 (40-153)
	L	J			Binanalana

2.3 Fuel deliveries			
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes	Charge-air press bar (kgf/cm²)
End stop	2700 2500 2400 2000 1400 1000 700* 600	max. 2,0 max. 17,5 (22,0-30,0) 43,0-45,0(41,7-46,2) (47,7-52,2) 45,0-48,0(43,5-49,5) 40,0-41,0(37,5-43,5= (32,5-38,5)	0,735 0,735 0,735 0,735 0,735 0,735 0,2
switch-off	2200		
Idle stop	480 375 350	max. 2,0 4,0-8,0 (2,0-10,0) (7,0-15,0)	
End stop	180 300	min. 40 max. 40	
2 4 Solenoid	max. cut-in volt	age xxxx min. 10,0 V	1

3. Dimer	ISIONS for assembly and adjustment mm
к	3,2-3,4
KF	5,7-5,9
MS	1,4-1,6
svs	max.5,3
^xĸ	20,2-22,2
B Xľ	9,1-12,4
Observations	
* Manifol	d-pressure

compensator stroke

Correction at the adjusting nut. (46)

= 4,5 mm

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rated voltage 12V

46

WPP 001/4 BMW 2,4 b

1. Edition

VE 6/10 F 2400 R 118

Overflow temperature 45° C

•

0 460 406 025

DHK 1 688 901 022, Prüfdruckl. 1 680 750 073

supersedes binw - USA, Ford-calif. engine:

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

see VDT-W-460/...

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1 1 Timing device travel	1500	6,5 - 6,9	mm	1,050	
1.2 Supply-pump pressure	1500	5,9 - 6,5	bar (kgf/cm²)	1,050	
1 3 Full-load delivery with	1500	89,5 - 40,5	cm ³ /1000 strokes	1,050	max. 3,0
charge-air pressure Full-load delivery without	500	21,5 - 22,5	cm³/1000 strokes	0	max. 3,0
charge air pressure 1.4 Idle regulation	400 **	6,0 -10,0	cm³/1000 strokes	0	
1 5 Full-speed regulation	2600	17,0 - 23,0	cm³/1000 strokes	1,050	max. 3,0
1 6 Start	250 **	35,0 - 37,0	cm ³ /1000 strokes	0	·;
1.7 Load-dependent port-closing	-				

2 1 Timing device	n = rev/min	400	15	00	1500 **		2000
LDA = 1,050ba	mm	3,8-4,6	(3,5-4,9)(6,0	-7,4)	0	8,2-9	,0 (7,9-9,3)
22 Supply pump LDA = 1 ,050bat	n = rev/min bar (kgf/cm²)	500 4,4 - 5					2300 - 7,8
Overflow delivery	n = rev/min cm³/10 s						2400 8 (40-153)
2 3 Fuel deliveries Speed control lever	Rot speed	Fuet delivery		Charge-air pre:		Dimen	Sions for assembly and adjustment
Speed Controllevel	rev/min	cm ³ /1000 strokes		bar (kgf/cm²)			
End stop switch-off	2700 2600 2400 1500 * 750 500 **	39,5-41,5	(6,0 - 14,0) (16,0- 24,0) (38,2-42,8) (37,7-42,3) (29,7-34,3) (19,7-24,3)	1,050		K KF MS SVS XK XL A	3,2 - 3,4 6,3 - 6,6 1,4 - 1,6 3,0 20,2 - 22, 9,5 - 12,
Idle stop Aust gas re- culation dri- rt pection point it stop	450 ** 400 ** 850 *** 100 ** 400 **	max. 3,0 16,0-18,0 27,0-37,0 28,0-38,0 19,2-23,8	(4,0 - 12,0)		Ple	Observations Please note instructions on sheet 2.	
2.4 Solenoid	max. cut-in voltage	xxx min		<u> </u>			

- * Manifold-pressure compensator stroke = 7,5 mm
 ** Supply 12 V to the solenoid valve
 *** Setting point for the exhaust gas recirculation

Pull the control lever in the direction of full load, until the gauge fits over the driver and stay on the housing cover. Measure the fuel delivery.

(rated voltage 12 V)

46

WPP 001/4 BMW 2,4 C 1. Edition

VE 6/10 F 2400 R 118-1

Overflow temperature 45° C

supérsedes -

0 460 406 041

Pre-stroke setting

DHK 1 688 901 022, Prüfdruckl. 1 680 750 073

companyBMW- USA .Ford engine: M 21 D 24

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test instructions and Test Equipment

see VDT-W-460/...

1. Settings	Rot. speed rev/min			Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1500	6,5 - 6,9	mm	1,050	
1.2 Supply-pump pressure	1500	5,9 - 6,5	bar (kgf/cm²)	1,050	
1.3 Full-load delivery with	1500	39,5-40,5	cm ³ /1000 strokes	1,050	max. 3,0
charge air pressure Full-load delivery without	500	21,5-22,5	cm³/1000 strokes	0	max. 3,0
charge-air pressure 1.4 Idle regulation	400 **	6,0-10,0	cm³/1000 strokes	0	
1.5 Full-speed regulation	2600	17,0 - 23,0	cm ³ /1000 strokes	1,050	max. 3,0
1.6 Start	250 **	35,0 - 37,0	cm ³ /1000 strokes	0	
1.7 Load-dependent port-closing					

							L
2. Test Spe	cifications	checking values in t	orackets ()			
2 1 Timing device	n = rev/min	400		1500	1500**	2000	
LDA =1,050 ba	mm	3,8-4,6 (3	,5-4,9)	6,0-7,4)	0	8,2-9,0	(7,9-9,3)
2.2 Supply pump	n = rev/min	500				230	0
LDA = 1,050 ba	bar (kgf/cm²)	4,4-5,0				7,2 -	7,8
Overflow delivery	n = rev/min cm ³ /10 s					240 55-138 (- -
2 3 Fuel deliveries		J				3. Dimens	for assembly
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes		Charge a bar (kgf/c		Designation	and adjustment mm
End stop	2700	7,0 - 13,0	• •			K	3,2 - 3,4
	2600 2400	39,5- 41,5	(16,0- 24 (38,2-42,			KF	6,3 - 6,6

Speed control lever	Rot. speed rev/min	Fuel delivery cm³/1000 strokes	Charge air press bar (kgf/cm²)
End stop	2700 2600 2400 1500 * 750 500 **	7,0 - 13,0 (6,0 - 14,0 (16,0- 24,0 39,5- 41,5 (38,2-42,8) (37,7-42,3) 31,5-32,5 (29,7-34,9) (19,7-24,3)	1,050 1,050
switch-off			
Idlestop Exhaust gas re- circulation dri- ver . Start Inspection point Limit stop	450 ** 400 ** 850 *** 100 ** 400 **	max. 3,0 (4,0 - 12,0) 16,0-18,0 27,0-37,0 28,0-39,0 19,2-23,8	
2.4 Solenoid	max. cut-in voltage		

3,2 - 3,4 6,3 - 6,6 1,4 - 1,6
6,3 - 6,6
1,4 - 1,6
3,0

Please note instructions on sheet 2.

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- * Manifold-pressure compensator stroke = 7,5 mm
 ** Supply 12 V to the solenoid valve
 *** Setting point for the exhaust gas recirculation

Pull the control lever in the direction of full load, until the gauge fits over the driver and stay on the housing cover. Measure the fuel delivery.

(rated voltage 12 V)

46

WPP 001/4 CUM 3,9 a

2. Edition

VE 4/12 F 1250 R 123

Overflow temperature 45° C

supersedes 03 • 84 company Cummins engine: 4 T.390

0 460 424 006

DHK: 1 688 901 016 / 207+3 bar

All test specifications are valid only for Bosch Fuel-Injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

0.3

mm = 0,02 (0,04)

see VDT-W-460/.

1. Settings	Rot. speed rev/min	Settings		Charge-air press bar (kgf/cm²)	Difference in delivery cm ³
1 1 Timing device travel 1 2 Supply-pump pressure 1 3 Full-load delivery with charge-air pressure Full-load delivery without charge-air pressure 1 4 Idle regulation 1 5 Full-speed regulation 1 6 Start	900 900 - 1100 375 1340 100	2,3- 2,7 4,5- 5,1 85,0-86,0 18,5-24,5 24,5-32,5 min. 97,0	mm bar (kgf/cm²) cm³/1000 strokes cm³/1000 strokes cm³/1000 strokes cm³/1000 strokes	Dar (kgr/cm²)	4,0(4,5) 3,5(4,5)
1 7 Load-dependent port-closing	-				

2. Test Spe	cifications	checking values in b	orackets ()					
2.1 Timing device	n = rev/min mm	75 1,1-1,9(0,8	50 3-2,2)	900 (1,8-3,2)	3,2-4	1100 ,0(2,9-4	,3)3,7	1250 -4,5(3,4	1-4
2 2 Supply pump	n = rev/min bar (kgf/cm²)	400 2,3-2,9	750 3,8-4,4	1 5	1100 5,3-5,9				
Overflow delivery	n = rev/min cm ³ /10 s	600 55-138(40-153)			55-13	1250 8(40-153))		
		- 				[5 B			

	_i	00 100(10 100)		•
2.3 Fuel deliveries				
Speed control lever	Rot. speed rev/min	Fuel delivery cm ^{3/} 1000 strokes	Charge-air press. bar (kgf/cm²)	
End stop switch-off	1400 1340 1250 1100 750 600	max. 1,0 (23,5-33,5) 80,0-83,0 (78,5-84,5) (82,5-88,5) 88,5-92,5 (86,7-94,3) 88,5-92,5 (86,7-94,3)		
	450			
End Stop	450 375 300 130 200	max. 1,5 (16,5-26,5) 40.3-46,3 (38,3-48,3) min. 97,0 max. 85,0		
2 4 Solenoid	max. cut-in volta	- AA 111111 10 Y		

3. Dimer	18i018 for assembly and adjustment
Designation	mm
к	-
KF	5,1-5,4
MS	1,4-1,6
. svs	4,2
A	
В	
Observations	<u>. L</u>
Ston che	ck electric

Stop check electric shutoff device at 375 min/1.

BOSCH

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46

WPP 001/4 REN 2,0 k

2. Edition

VE 4/9 F 2200 R 153

Overflow temperature 45° C

supersedes Renault company J8S-709

engine:

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

mm

Test Instructions and Test Equipment

see VDT-W-460/...

Pre-stroke setting

0 460 494 141

1. Settings	Rot. speed rev/min	Settings		Charge-air press bar (kgf/cm²)	Difference in delivery cm ³
A A Timing device Assurab	1400	4,0-4,4	mm	0,8	
1.1 Timing device travel	1400	5,1-5,7	bar (kgf/cm²)	0,8	
1 2 Supply-pump pressure	1400	49,5-50,5	cm³/1000 strokes	0,8	2,5 (3,0)
1.3 Full-load delivery with charge-air pressure	600	35,0-36,0	cm³/1000 strokes	0	
Full-load delivery without charge-air pressure	350	9,0-13,0	cm³/1000 strokes	0	2,5 (3,0)
1.5 Full-speed regulation	2400	23,0-29,0	cm³/1000 strokes	0,8	
1.6 Start	100	min. 60,0	cm³/1000 strokes	0	
1.7 Load-dependent port-closing	_				

2. Test Spe	ecifications	checking values in brackets ()
2.1 Timing device	n = rev/min mm	1,9-2,7 (1,6-3,0)	1400 1800 2000 (3,5-4,9) 5,7-6,5 (5,4-6,8)6,2-7,0(5,9-7,3
2 2 Supply pump	n = rev/min bar (kgf/cm²)	400 1,9-2,5	1800 6,3-6,9
Overflow delivery	n = rev/min cm³/10 s	300 55-138(40-153)	2200 55-138(40-153)
2.3 Fuel deliveries		1	3. Dimensions

2.3 Fuel deliveries			
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes	Charge-air press bar (kgl/cm²)
End stop	2700 2500 2400 2000 1400 1000 *700 600	max. 2,0 max. 17,5 (22,0-30,0) 43,0-45,0 (41,7-46,2) (47,7-52,2) 45,0-48,0 (43,5-49,5) 40,0-41,0 (37,5-43,5) (32,5-38,5)	0,8 0,8
switch-off			
	2200	0	
idle stop	480 375 350	max. 2,0 4,0-8,0 (2,0-10,0) (7,0-15,0)	
End : stop	180 300	min. 40,0 max. 40,0	
2.4 Solenoid	max. cut-in volt	ege xx min. 10,0 V rated voltage 12V.	<u> </u>

Designation	for assembly and adjustment mm		
ĸ	3,2-3,4		
KF	5,7-6,0		
MS	1,4-1,6		
svs	3,6		
A			
8			
Observations			

= 4.5 mm

Correction at the adjusting nut. (46)

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46

WPP 001/4 REN 2,0 k 1 2. Edition

En

VE 4/9 F 2200 R 153-1 0460 494 156

Overflow temperature 45° C

supersedes 02.84 Renault engine: J8S-T 01

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

mm

see VDT-W-460/.

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1400	4,0-4,4	mm	0,8	
1.2 Supply-pump pressure	1400	5,1-5,7	bar (kgf/cm²)	0,8	
1.3 Full-load delivery with	1400	49,5-50,5	cm ³ /1000 strokes	0,8	2,5(3.0)
charge-air pressure Full-load delivery without	600	35,0-36,0	cm³/1000 strokes	0	
charge-air pressure 1.4 Idle regulation	350	9,0-13,0	cm ³ /1000 strokes	0	2,5(3,0)
1.5 Full-speed regulation	2400	23,0-29,0	cm³/1000 strokes	0,8	
1.6 Start	100	min. 60,0	cm ³ /1000 strokes	0	
1.7 Load-dependent port-closing	_				

2. Test Spe	cifications	checking values in brackets ()			
2.1 Timing device	n = rev/min	1000	1400	1800	2000	
	mm	1,9-2,7 (1,6-3,0)(3,5-4,9) 5,7-6,5 (5,4-6,8)6,2-7,0(5,9-7.				
2.2 Supply pump	n = rev/min bar (kgf/cm²)	400 1,9-2,5		1800 6,3-6,9		
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138 (40-153)		2200 55-138 (40-1	153)	

2.3 Fuel deliveries			
Speed control lever	Rot. speed rev/min	Fuel delivery cm³/1000 strokes	Charge-air press bar (kgf/cm²)
End stop	2700 2500 2400 2000 1400 1000 *700 600	max. 2,0 max. 17,5 (22,0-30,0) 43,0-45,0(41,7-46,2) (47,7-52,2) 45,0-48,0(43,5-49,5) 40,0-41,0(37,5-43,5) (32,5-38,5)	0,8 0,8 0,8 0,8 0,8 0,8 0,2
switch-off	2200	0	
Idle stop	480 375 350	max. 2,0 4,0-8,0 (2,0-10,0) (7,0-15,0)	
End stop	180 300	min. 40,0 max. 40,0	
2.4 Solenold	max. cut-in volta	ge xxx min. 10 V rated voltage 12V.	<u> </u>

3. Dimen	ISIONS for assembly and adjustment mm
K KF MS SVS	3,2-3,4 5,7-6,0 1,4-1,6 3,6
A B Observations	
	d-pressure ator stroke

Correction at the adjusting nut. (46)

BOSCH

WPP 001/4 REN 2,0f

3. Edition

VE 4/9 F 2250 R 158

0 460 494 145

Overflow temperature 45° C

5-84

supersedes company:

Renault

engine:

J85-706

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers mm

Test Instructions and Test Equipment

see VDT-W-460/...

Pre-stroke setting

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1400	4,4-4,8	mm		
1.2 Supply pump pressure	1400	4,9-5,5	bar (kgf/cm²)		
1.3 Full-load delivery with	-	-	cm ³ /1000 strokes	[-
charge-air pressure Full-load delivery without	1400	38,5-39,5	cm ³ /1000 strokes		2,5 (3,0
charge-air pressure 1.4 Idle regulation	400	7,5-11,5	cm ³ /1000 strokes		2,5 (3,0
1.5 Full-speed regulation	2400	17,0-23,0	cm ³ /1000 strokes		
1.6 Start	100	min. 52,0	cm³/1000 strokes		
1.7 Load-dependent port-closing	1400				

2. Test Spe	ecifications	checking values in brackets ()	
2.1 Timing device	n = rev/min mm	1000	1400 (3, 9 -5,3)	2000 6,7-7,5 (6,4-7,8)
2.2 Supply pump	n = rev/min bar (kgf/cm²)	1000 3,9-4,5		2000 6,5-7,1
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138 (40-153)		2250 55-138 (40-153)
2.3 Fuel deliveries		I		3. Dimensions for assembly and adjustment

2.3 Fuel deliveries			
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes	Charge-air press. bar (kgf/cm²)
End stop	2550 2400 2200 2100 1400 1000	max. 2,0 (16,0-24 31,4-33,4 (30,1-34 32,7-34,7 (31,4-35 (36,7-41 35,8-38,8 (34,3-40	,7) ,9) ,2)
switch-off	2250	0	
Idle stop .,	650 400	max. 5,0 (5,5-13,	5)
End stop	320 430	min. 45,0 max. 45,0	
2.4 Solenoid	max. cut-in voits	nge xxx min. 10 V rated voltage 12V.	

T	3. Dimensions						
	Designation	and adjustment mm					
	к	3,2-3,4					
	KF	5,7-5,9					
	MS	1,4-1,6					
	svs	max. 3,6					
	X XK						
1	Observations	1					
4							
ك	<u> </u>	10 84					

BOSCH

XXX
Geschäftsbereich KH. Kundendienst. Kfz. Ausrüstung.
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Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

WPP 001/4 PEU 1,1 a 1. Edition

PES 2 A 80 D 420 RS 1259 Komb.-Nr. 0 400 472 043

RSV 450-1350 A2B 580 DR A2C 580 R

company Peugeot C 193

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,10-2,30)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm //100 strokes	cm ¹ / 100 strokes	mm	cm //100 strokes	mm 6
1350	9,0-9,1	3,8 - 3,9	0,2(0,35)	2		
450	8,1-8,3	1,0 - 1,4	0,2(0,3)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	r rated speed	l rev/min	Intermed	diate rated	speed	4	Lower	rated speed	(3) to	rque control
Degree of deflection	Control rod travel	Control rod travel				Control- lever		Control rod travel		Control rod travel
of control	mm	mm rev/min				deflection in degrees	rev/min	mm	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
loose	800	0,3-1,0	-	-	-	ca. 23	450	8,2	1350	9,0-9,1
	x =	4,0					100	min.19,0	690	9,5-9,7
ca. 52	8,0	1390-1400		•			450 740-800	8,6-8,8 = 2,0	500	10,2-10,3
(2a)	4,0 1640	1415-1445 0,3-1,7					800	max. 1,0		
	1070	0,5-1,7					<u></u>			

The numbers denote the sequence of the tests

C. Settings for Fue! Injection Pump with Fitted Governor

2b Ft	ill-load stop	6 Rotational- speed limitat		sel delivery paracteristics	Starting t	Starting fuel delivery 5		(4a) idle stop	
Test oil to	cm ^y 1000 strokes	Note changed to) rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ¹ /1000 strokes	rev/min	Control rod travel mm	
1	2	3	4	5	6	7	В	9	
1350	37,5-38,5 (36,0-40,0)	1390-1400*	900 500	31,5-33,5 (30,0-35,0) 29,5-31,5 (28,0-33,0)	100	60,0-70,0 (57,0-73,0 = 18,6 - 19,2 mm RW		-	

Checking values in brackets

* 1 mm less control rod travel than col 2

10.84

Geschaftsbereich KH. Kundendienst. Kfz-Austustung. 1980 by Roben Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

WPP 001/4 KHD 1 g 11 1. Edition:

PES 4 A 80 D 410/3 RS 1300

RSV 325-1150 A 8 C 2163 - 2 L

Komb.-Nr. 0 400 464 130

F 4 L 912 51 kW/2300 min⁻¹ Schlepper DX 4,10

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

1,9 - 2,0(1,85-2,05)

nam (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ¹ /100 strokes	cm ¹ / 100 strokes	mm	cm /100 strokes	mm
<u> </u>	1	3	4	2	3	6
1175	10,8+0,1	5,2 - 5,3	0,25(0,4)			
325	8,4-8,6	1,0 - 1,6	0,2 (0,3)			

Adjust the fuel delivery from each outlet according to the values in E

B. Governor Settings

•		Interme	diate rat	ed speed	4	Lower		(3) 10	rque control
travel	travel	ļ			Control- lever		Control rod travel		Control rod travel
mm 2	mm rev/min	4	5	6	deflection in degrees 7	rev/min 8	mm 9	rev/min	mm 11
800	0,3-0,7	•	_	-	ca. 12	325	8,0	1175	10,8-10,9
X =	3,25					225	0 1 0 6	500	12,0-12,1
9,8 4,0 1400							= 2,0		
	Control rod travel mm 2 800 X = 9,8 4,0	mm rev/min 2 800 0,3-0,7 x = 3,25 9,8 1215-1225 4,0 1280-1310	Control rod travel mm rev/min 2	Control rod travel mm rev/min 2 3 4 5 800 0,3-0,7	Control rod travel mm rev/min 2 3 4 5 6 800 0,3-0,7	Control rod travel mm rev/min 2 3 4 5 6 Control lever deflection in degrees 7 Ca. 12 800 0,3-0,7 Ca. 12 9,8 1215-1225 4,0 1280-1310	Control rod travel mm rev/min 2 3 4 5 6 Control lever deflection in degrees 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	Control rod travel mm rev/min 2 3 4 5 6 Control lever deflection in degrees 7 8 9 9 8 1215-1225 4.0 1280-1310 Control rod travel mm rev/min 8 9 Control rod travel mm mm 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Control rod travel mm rev/min 2 3 4 5 6 7 Control lever deflection in degrees 7 8 9 10 10 800 0,3-0,7

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	III-load stop	6 Rotational- speed limitat	39 F.	3a Fuel delivery characteristics		Starting fuel delivery 5		4a idle stop	
rev/min	cm/1000 strokes	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm ¹ /1000 strokes 7	rev/min 8	Control rod travel mm 9	
1175	52,0 - 53,0 (50,5 - 54,5)	1215-1225*	800	51,5 - 53,5 (49,5 - 55,5)	100	115,0-125 (112,0-128	0 -	-	

Checking values in brackets

^{* 1} mm less control rod travel than col 2

WPP 001/4 KHD 3,0 b 1. Edition

PES 3 A 80 D 410/3 RS 1324

RSV 325-1150 A 8 C 715-1 L

KHD

Komb.-Nr. 0 400 463 145

company F 3 L 912 engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (1,85-2,05)

mm (from BDC)

Rotational speed	Control rod	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm³/100 strokes	cm³/ 100 strokes 4	mm 2	cm³/100 strokes	mm 6
1000	10,8+0,1	5,8-5,9	0,2(0,35)			
325	8,0-8,2	1,2-1,8	0,2(0,3)			
		·				

B. Governor Settings

estoil-ISO 4113

Degree of deflection of control lever	r rated speed Control rod travel mm		Interme	ediate rate	d speed	Control- lever deflection in degrees 7	Lowe rev/min 8	Control rod travel mm	(3) To	rque control Control rod travel mm
loose	800	0,3-1,0	-		-	ca.20	325 100	7,6 min.19,5	1150 500 775	10,8-10,9 11,2-11,3 10,8-11,1
ca.55	9,8 4,0 1375	1190-1200 1255-1285 0,3-1,7					325 460-52	8,0-8,2		10,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	ill-load stop	6 Rotational- speed limitat		uel delivery naracteristics	Starting t	fuel delivery 5	(4a) Idi	e stop
Test oil to rev/min 1	cm ³ /1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ⁹ /1000 strokes 5	rev/min	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9
1000	58,0-59,0 (56,5-60,5)	1190-1200*	-	-	-	-	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

10.84

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WPP 001/4 KHD 1 g 15

1. Edition

PES 3 A 80 D 410/3 RS 1324 Komb.-Nr. 0 400 463 143

RSV 325-1200 A 8 B 2154 DL A 8 C 2154 L

En

supersed€s

company 3 L 912 33 kW/2400 min⁻¹ Schlepper

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

estoil-ISO 4113

(1,85-2,05)

mm (from BDC)

Rotational speed	Control rod	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes	cm ¹ / 100 strokes	mm	cm ¹ /100 strokes	mm
1	2	3	4	2	3	6
1200	11,2+0,1	6,1-6,2	0,2(0,35)			
325	8,9-9,1	1,7-2,3	0,2(0,3)			
	į					
	ļ					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	er rated speed	rev/min	Interm	ediate rate	ed speed	4	Lower	rated speed	(3) 10	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm
loose	800	0,3-1,0	•		-	ca. 19	325	8,5	1200 500	
	X =	4,5					100 325	min.19,0 8,9-9,1	825	11,4-11,6
ca. 56	10,2 4,0 1450	1240-1250 1285-1315 0,3-1,7					470-53			

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b Fu	ill-load stop	6 Rotational- speed limitat	Starting Idle	fuel delivery 5	4a idle stop			
Test oil to rev/min 1	emp_40°C (104°F) cm1/1000 strokes 2	Note changed to) rev/min 3	rev/min	cm³/1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm
1200	60,5-61,5 (59,0-63,0)	1240-1250*	825	54,5-56,5 (53,0-58,0)	-	-	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

10.84

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WPP 001/4 KHD 1 g 14

1. Edition

PES 3 A 80 D 410/3 RS 1324

Komb.-Nr. 0 400 463 147

RSV 325-1075 A 8 C 2163-1 L

En

supersedes KHD

company F 3 L 912 $34 \text{ kW}/2150 \text{ min}^{-1}$ Schlepper DX 3,10

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

1,9-2,0 (1,85-2,05)

mm (from BDC)

		,				
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm ¹ /100 strokes	cm // 100 strokes	mm	cm#100 strokes	mm
1	2	3	4	2	3	6
800	11,6+0,1	5,1-5,2	0,25(0,35)			
325	8,5-8,7	1,0-1,6	0,2 (0,3)			
		<u> </u>				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1) Uppe	r rated speed	rev/min	Intermediate rated speed		Lower rated speed			3 Torque control		
Degree of deflection	Control rod	Control rod travel				Control- lever		Control rod travel		Control rod travel
of control lever	mm 2	mm rev/min	4	5	6	deflection in degrees 7	rev/min 8	9 .	rev/min	mm 11
loose	800	0,3-0,7	-	-	•	ca. 17	325	8,1	800	11,6-11,7
	x =	4,0					100	min.19,5		11,6-11,7 11,5-11,6
ca.50	9,7 4,0 1320	1115-1125 1155-1185 0,3-1,4					325 480-540	8,5-8,7 = 2,0	1075	10,8-11,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull-load stop emp 40°C (104°F)	Rotational- speed limitat		vel delivery paracteristics	Starting t	uel delivery 5	4a Idi	e stop
rev/min	cmV1000 strokes	Note changed to) rev/min 3	rev/min	cm ¹ /1000 strokes 5	rev/min	cm //1000 strokes 7	rev/min 8	Control rod travel mm 9
800	51,0-52,0 (49,5-53,5)	1115-1125*	-	-	100	115,0-125 (112,0-128 = 19,5-21, mm RW	(0)	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

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WPP 001/4 KHD 1 g 13

1. Edition

PES 3 A 80 D 410/3 RS 1324

RSV 325-1250 A 8 C 2168-1 L

Komb.-Nr. 0 400 463 148

supersedes company**KHD**

engine F 3 L 913

45 kW/2500 min⁻¹
Schlepper DX 3,30

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

1,9-2,0 (1,85-2,05)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference cm ¹ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm ¹ /100 strokes	100 strokes	mm	cm 1/100 strokes	mm -
1	2	3	4	2	3	6
1250	10,7+0,1	5,6-5,7	0,25(0,35			_
325	7,4-7,6	1,0-1,6	0,2 (0,3)			
:						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Interme	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	3 To	rque control Control rod travel mm
lose	800 x =	0,3-0,7 4,0	-	•	-	ca. 19	100	7,9 min.19,5	1250 500 1090	10,7-10,8 11,3-11,4 10,9-11,2
ca. 57	9,7 4,0 1565	1290-1300 1400-1430 0,3-1,4					325 825-88!	8,3-8,5 = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b Fu	ill-load stop	Rotational- speed limitat		3a Fuel Jelivery characteristics		Starting fuel delivery 5		4a) Idle stop	
Test oil to rev/min 1	emp 40°C (104°F) cm³/1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ¹ /1000 strokes	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9	
1250	55,5-56,5 (54,0-58,0)	1290-1300*	800	48,5-50,5 (46,5-52,5)	100	115,0-125, 112,0-128, =19,5-21, mm RW	0)	-	

Checking values in brackets

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ichaftsbereich KH. Kundendienst. Kfz-Ausrustung. 980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany. zimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

^{* 1} mm less control rod travel than col. 2

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WPP 001/4 LOM 3,7 b
2. Edition

PES 4 A 80 D 420 LS 1345

RSV 350-750 A 7 B 2183-1 R

Komb.-Nr. 0 400 474 161

A 7 C 2183-1 R

supersed11.83 companyLombardini

engine LDA 934

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,7 - 2,8 (2,65-2,85)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (forque-control valve)
rev/min 1	mm 2	cm /100 strokes 3	cm ¹ / 100 strokes 4	mm 2	cm /100 strokes	mm 6
700	9,2-9,3	5,3-5,4	0,25(0,4)		·	
350	7,9-8,1	2,8-3,4	0,2 (0,35)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	er rated speed	l rev/min	Interme	ediate rati	ed speed	4	Lower	rated speed	(3) 10	rque control
Degree of deflection of control lever 1	Control rod travel mm	Control rod travel mm rev/min 3	4	5	6	Control- lever deflection in degrees 7	rev/min 8	Control rod travel mm	rev/min	Control rod travel mm
loose	800 x =	0,3 - 1,0 3,75	-	•	-	ca. 17	350 100 350	7,5 min.19,5 7,9-8,1	-	-
ca. 36	8,2 4,0 925	740-750 760-790 0,3-1,7						5=2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull load stop	6 Rotational- speed limitat	Ga Fuel delivery characteristics		Starting fuel delivery 5		4a Idle stop	
	emp 40°C (104°F) cm ¹ /1000 strokes 2	Note changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm
700	52,5-53,5 (51,0-55,0)	740-750*	-	-	100	100,0-110 (97,0-113 = 15,2-15 mm RW	,0)	•

Checking values in brackets

* 1 mm less control rod travel than col 2

10.84

BOSCH

Geschaftsbereich KM. Kundendienst. Kfz-Ausrustung. 6. 1980 by Robert Bosch GmbH. Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

WPP 001/4 MB 5,7 i 8

1. Edition

PES 6 A 80 C 410 RS 2085 X

RQV 300-1425 AB 615 D

supersedes-

company Daimler-Benz OM 352 engine 66 kW (90 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke	(2.10-2.30)	mm (from BDC)		
Rotational speed rev/min 1	1	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	3,9 - 4,3	0,3		·	
	6	1,2 - 2,0				
200	9	1,8 - 2,6				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	· · · · · · · · · · · · · · · · · · ·			Intermediate rated speed			speed	Slidina s	leeva travel	
deflection	rev/min Control rod travel mm 2	mm -	Degree of deflection of control lever	on I	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min	Control rod travel mm 3	rev/min 10	1
ca. 66	1425 1550 1650 1700 1790	16,0-19, 8,2-13, 1,4-8, 0 - 5,	4	-	-	ca. 10	200 400 480 600 770		640	0,9-1,1 3,3-3,7 5,0-6,2 8,7

Torque control travel a = 1,7 mm

C. Settings for Fuel Injection Pump with Fitted Governor

	stop np 40°C (104°F) 2	Rotational-speed 20 limitation intermediate speed	high idle s	(a)	idle switchir	ng point	travel	Control cod
rev/min	cm³/1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	ww
1	2	3	4	5	6	7	8	9
1400	38,5-40,5	1505-1515*	1000	35,5-38,5	100	72,5-82,5	1425	0
	(37,5-41,5)	1303 1313	800 500	36,0-39,0 37,7-41,2		72,0 02,0	600	1,6-1,8
							<u> </u>	

Checking values in brackets

* 1 mm less control rod travel than col. 2

10.84

A21

BOSCH

40

WPP 001/4 MB 5,7 m

Edition

Testoil-ISO 4113

PES 6 A 80 C 410 RS2085X EP/RSV 350-1300 A2B1005D (1) .. 2C . supersede4 .84 company Daimier-Benz RS2085X EP/RSV 350-1425 A2B1001D (2) ..D.. RS2085X EP/RSV 350-1425 A2B1007D (3) OM 352 - Unimog RS2085X EP/RSV 350-1400 A2B1052D (4) RS2085T EP/RSV 350-1300 A2B1005D (5) 84 PS (1+5)90 PS (2) 100 PS (3)110 PS All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2.15 + 0.1

mm (from BDC)

Control rod travel	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve) mm
2	3	4	2	3	6
9	3,8 - 4,3	0,3			
6 15	1,2 - 2,0 9,8 - 11,0				
9	1,8 - 2,6				
	travet mm 2 9 6 15	trave1 mm cm³/100 strokes 2 9 3,8 - 4,3 6 1,2 - 2,0 15 9,8 - 11,0	travel mm cm³/100 strokes 2 3 4 9 3,8 - 4,3 0,3 6 1,2 - 2,0 15 9,8 - 11,0	travel cm³/100 strokes cm³/ 100 strokes mm 2 mm	travel

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

A2 C 350-1300 A2 B1005 D (1)

Upper	rated speed		Intermediate	rated spe	ed	4 Lowe	r rated spe	eed	3 Torque control		
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	Control rod travel	
1	2	3	4	5	6	7	8	9	10	11	
loose	800	0,3-1,0	-	-	-	lose	350	6,9		8,0+0,1	
10030	×	= 4,25						min.17,5 6,8-7,0	700	9,4+0,1 9,2+0,2	
ca.48	7,0 4,0 1575	1340-1350 1400-1430 0,3-1,7						=2,0	950	8,3+0,3	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-lo	oad stop	6 Rotational- speed limitat.		el delivery aracteristics	Starting Idle	fuel delivery	(5a) Idle stop	
fest oil tem ev/min I	p 40°C (104°F) cm ³ /1000 strokes 2	Note: changed to rev/min 3	rev/min cm³/1000 strokes 4 5		rev/min cm ³ /1000 stro		rev/min 8	Control rod travel mm 9
(1) 1300	40,0 - 41,0 (38,5-42,5)	1340-1350 •	500	39,5 - 41,5 (37,5-43,5)	100	78,0 - 88,0 (75,0-91,0) = 14,5 - 14,9 mm RW	l	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

350-1425 A2 B1001D (2)

1 Upper	rated speed	;	Intermediate	rated	. 1	4 Lowe	r rated sp	eed	3 Torque control	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rad travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
ca.60	1425 1500 1560	16,0 11,5 6,8	without	auxi	liary spr	ca.22 ng	350 200 350	7,5 19 - 21 7,2-7,8	1400 900	0 0 -0,2
(5)	1530 1600 1820	7,5-10,5 4,0-6,0 0,3-1,0	with au	ıxiliaı	ry spring		500 700 940	5,1-6,6 0,1-4,0 0 - 1	400	1,3-1,5

The numbers denote the sequence of the lests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full to	oad stop	6 Rotational speed limitat		et delivery aracteristics	Starting Idle	fuel delivery	(5a) Idle stop	
Test oil tem rev/min	p 40°C (104°F) cm³/1000 strokes	Note changed to rev/min	rev/min	cm 1/1000 strokes		cm ¹ /1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9
(2) 1400	41,0 - 43,0	1455-1465	1000 800 500	37,0 - 40,0 38,5 - 41,5 40,0 - 43,0	100	72,5 - 82,5		
(incr	ease by ± 0.5	cm³)	63)					

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISO 4113

B. Governor Settings

350-1425 A2 B1007D (3)

1 Upper Degree of deflection of control lever	rated speed	Control rod travel	Intermediate Degree of deflection of control lever	rev/min	Control rod travel	4 Lowe Degree of deflection of control lever	crated speed Control rod travel mm mm 8 9		3 For	que control Control rod travel mm
ca.60	1425 1500 1560	16,0 11,4 6,6	without	auxil	iary spri	ca.22 ng	350 200 350	7,2 19 - 21 5,9-7,5	1400 950	0
⑤	1520 1650 1800	8,0-10,9 2,1-4,4 0,3-1,5	with au	xiliar 	ry spring			2,3-4,6 0 -1,5	1	0,9-1,1

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Fulf-li	oad stop	6 Rotational- speed limitat		el delivery aracteristics	Starting Idle	fuel delivory	5a) Idle stop	
Test oil tem rev/min 1	cm ¹ /1000 strokes	Note changed to rev/min 3	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9
(3) 1400	45,0 - 47,0	1420-1430	1000 800 500	41,0 - 44,0 42,5 - 45,5 40,0 - 43,0	100	72,5 - 82,5		
	,				-			

ALU

B. Governor Settings

350-1400 A2 B1052D (4)

(1) Upper	rated spee	d	Intermediate	e rated spe	eed	4 Lowe	rated spe		3 Torque control	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm 6	Degree of deflection of control lever 7	rev/min	Control rad travel mm 9	rev/min 10	control rod travel mm
ca.59	1400 1480 1530	16,0 10,8 7,0	without	auxil	liary spri	ca.22 ng	350 200 350	7,5 19 - 21 7,2-7,8	1400 800	0,1-0,3
(5)	1500 1600 1800	7,2-10,6 3,6-5,5 0,3-1,0	with au	xiliar	ry spring		600 950	3,4-5,4 0 - 1	400	0,8-1,0

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-lo	ead stop	6 Rotational- speed limitat		el delivery aracteristics	Starting Idle	fuel delivery	(5a) Idio	estop
Test oil tem rev/min 1	cm 1/1000 strokes	Note changed to rev/min 3	rev/min	cm ¹ /1000 strokes 5	rev/min	cm ¹ /1000 strokes 7	rev/min	Control rod travel mm 9
(4) 1400	50,5 - 52,5	1425-1465	800	46,0 - 49,0 44,5 - 47,5 44,5 - 47,5	100	72,5 - 82,5		
(incr	ease by ± 0.5	Cm³)	63)					

Checking values in brackets

Testoil-ISO 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

350-1300 A2 B1005D mit 2085 T (5)

(1) Upper	rated speed	1	Intermediate	rated spe	ed	4 Lowe	r rated spe			que control
Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of defiection of control lever	rev/min	Control rod travel	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
ca.51	1300 1360 1400	16,0 10,8 6,7			liary spr	,	350 200 350	8,0 19 - 21 7,7-8,3	1280 800	0 0,8-1,0
ca.49	1300 1400 1520	ca.8,2 ca.3,7 0,3-1,0		uxilia	ry spring		600 780	2,2-4,3 0 - 1		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-le	oad stop	6 Rotational- speed limitat		el delivery aracteristics	Starting Idle	fuel delivery	(5a) Idle stop		
Test oil ten rev/min	cm³/1000 strokes	Note changed to rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9	
(5) 1290	40,0 - 41,0 (38,5 - 40,5)	1330-1340 (1325-1345)	800 500	36,5-39,5 (35,0-41,0) 36,5-39,0 (35,0-40,5)	100	72,5 - 82,5			

WPP 001/4 MB 5,7 e 1 5. Edition

PES 6 A 80 D 410 RS 2085 Y

RQV 300-1475 AB 533 DL

Komb.-Nr. 0 400 846 185

supersetQ -83 company Daimler-Benz engine OM 352

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings 2,15-2,25
Port closing at prestroke (2,10-2,30) mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 stretes 3	Spring pre-tensioning (torque-control valve) mm 6
1450	8,2-8,3	4,6 - 4,7	0,2(0,35)		•	
300	6,9-7,1	1,3 - 1,6	0,2(0,3)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated :	speed		Intermediate	e rated sp	eed	Lower rated	speed		01:4:	
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm rev/min (2a)	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	mm
max.	1420	15,2-17,8	-	-	-	ca. 14	100 300	min. 8,5 6,9-7,1	250 660	0,8-1,1 3,4-3,8
ca.60	7,2 4,0 1700	1505-1515 1560-1590 0 - 1,0				330-450			1060 1475	5,3-5,5 8,3
						3 9				

Torque control travel a = 1 2

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro- Test oil ten		Rotational-speed 2b timitation intermediate speed	Fuel deli- high idle :	very characteristics (5a)	Starting Idle switching	. •	Torque-control 5 travel Control ro		
rev/min 1	cm ³ /1000 strokes	rev/min 4a 3	rev/min	cm ³ /1GCO strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm	
1450	46,0-47,0 (44,5-48,5)	1505-1515*	800	45,5-47,5 (44,0-49,0)		71,5-81,5 (68,5-84,5) = 12,9-13,3 mm RW	1450 500 800 1200	8,2-8,	

Checking values in brackets

* 1 mm less control rod travel than cot. 2

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 5,7 e 2 2. Edition

PES 6 A 80 D 410 RS 2085 Y

ROV 300-1475 AB 621 DL

supersed6.83 companyDaimler-Benz

Komb.-Nr. 0 400 846 241

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strekes 3	Spring pre-tensioning (torque-control valve) mm 6
1450	8,2-8,3	4,6-4,7	0,2(0,35)			
300	6,5-6,7	1,2-1,6	0,2(0,3)			
				İ		·
				ļ		

Adjust the fuel delivery from each outlet according to the values in E

B. Governor Settings

Upper rated	speed		Intermediate	rated sp	eed	Lower rated	speed	Stiding sleeve travel		
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod (take) travel mm rev/min (2a)	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min 8	Control rod travel mm 3	rev/min	0
max. ca.64	7,2 4,0	15,2-17,8 1490-1500 1535-1565	-	-	-	ca.11	100 300	min.8,1 6,5-6,7	275 675 1075	1,1-1,2 3,5-3,8 5,4-5,5
	1700	0-1,0				3a)			1475	8,3

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed (2b) limitation intermediate speed	Fuel delivery characteristics (5a) high idle speed (5b)		Starting Idle switching	. •	Torque-control 5 travel Control rod	
rev/min	cm³/1000 strokes	rev/min 4a)	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
1450	46,0-47,0 (44,5-48,5)	1490-1500*	500	41,0-44,0 (39,5-45,5)	100	78,0-88,0 (75,0-91,0) = 13,7-14,1 mm RW	1450 500 840 1100	8,2+0,1 9,1+0,1 9,0+0,2 8,5+0,3

Checking values in brackets

* 1 mm less control rod travel than col. 2

WPP 001/4 MB 5,7 i 5

1. Edition

PES 6 A 80 C 410 RS 2085 Y

RQV 300-1475 AB 622 D

supérsedes

companDaimler-Benz engine OM 352 81 kW (110 PS)

Komb.-Nr. 0 400 846 242

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	HITANA .	2,15-2,25 2 10-2 30)	mm (from BDC	mm (from BDC)							
Rotational speed	Control rad travel mm	Fuel delivery cm ³ /100 strokes	Difference cm³/ 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strukes	Spring pre-tensioning (torque-control valve) mm					
1000	9	4,4-4,8	0,3	 							
, 555											
	6	1,8-2,6	}								
200	9	2,4-3,4									

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediat	Intermediate rated speed			speed	Sliding sleeve travel		
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm rev/min 2	of control	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/rnin	Control rod travel mm 3	rev/min	mm
ca. 66	1475 1600 1700 1800 1850	16,0-19, 8,5-13, 1,6-8,5 0-3,0 0		-	-	ca. 10	100 300 500 600 770		250 660 1070 1475	0,8-1,1 3,8-4,0 5,7-5,9 8,9

Torque control travel a = 1,2 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2		Rotational-speed 2b limitation intermediate speed	Fuel deli high idle :		Starting Idle switchir		Torque- travel	control 5	
rev/min 1	cm³/1000 strokes	rev/min 49	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min 8	travel mm	
1450 1000	46,0-47,0 (44,5-48,5) 46,0-48,0 (44,5-49,5)	1505-1515*	800 500	45,5-47,5 (44,0-49,0) 41,5-44,0 (40,0-45,5)	100	72,5-82,5	1475 600	0 1,1-1,3	

Checking values in brackets

* 1 mm less control rod travel than col. 2



WPP 001/4 MB 5,7 i 6

1. Edition

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PES 6 A 80 C 410 RS 2085 Z

RQV 300-1475 AB 626 D

supersedes

compa@aimler-Benz engineOM 352 74 kW (100 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,15-2,25 mm (from BDC) Port closing at prestroke Spring pre-tensioning (torque-control valve) Rotational speed Control rod **Fuel delivery** Difference **Control rod Fuel delivery** cm³/ 100 strokes cm³/100 strokes cm³/100 strokes mm rev/min mm 1000 9 4,4-4,8 0,3 1,8-2,6 200 2,4-3,4

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	e rated sp	eed	Lower rated	speed		Stiding s	ieeve travel
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm rev/min 26	of control	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/mir: 8	Control rod travel mm 3	rev/min 10	mm 11
ca. 66	1475 1600 1700 1800 1850	16,0-19,0 8,5-13,5 1,6-8,5 0-3,0	-	-	-	ca. 10	100 300 500 600 770	6,7-8,0 4,8-6,5 2,5-3,7 1,3-2,7	250 660 1070 1475	0,8-1,1 3,8-4.0 5,7-5,9 8,9
						39				

Torque control travel a = 1,2 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil te		Rotational-speed 20 limitation intermediate speed			Starting Idle switchir	. •	Torque- travel	Control rod
rev/min 1	cm³/1000 strokes	rev/min 49	rev/min 4	cm ³ /1000 strokes	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	travel mm 9
1450	41,0-43,0 (40,0-44,0)	1505-1515*	1000 800 500	38,5-41,5 39,5-42,5 36,0-39,5	100	72,5-82,5	1475 600	0 1,1-1,3

Checking values in brackets

* 1 mm less control rod travel than col. 2

WPP 001/4 MB 5,7 i 7

1. Edition

PES 6 A 80 C 410 RS 2085 Z

ROV 300-1475 AB 627 D

company Daimler-Benz OM 352

74 kW (100 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,15-2,25

Port closing at pres	stroke	(2.10-2.30)	mm (from BDC	mm (from BDC)							
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm					
1000	9	4,4 - 4,8	0,3		·						
	6	1,8 - 2,6									
200	9	2,4 - 3,4									

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated	speed	•	Intermediat	e rated sp	eed	Lower rated	speed		Sliding	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm 2	mm	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min	Control rod travel mm 3		0
ca. 66	1475 1600 1700 1800 1850	16,0-19, 8,5-13, 1,6-8,5 0 - 3,	5	-	-	ca.10	100 300 500 600 770		250 660 1070 1475	0,8-1,1 3,8-4,0 5,7-5,9 8,9

Torque control travel a = 1,2

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roc Test oil ten rev/min	d stop np. 40°C (104°F) 2	Rotational-speed (2b) timitation intermediate speed rev/min			idie switchir	ng point	Torque- travel	control 5 Control rod travel mm
1450	41,0-43,0	1505-1515*	1000	38,5-41,5	100	72,5-82,5	1425	0
	(40,0-44,0)		800 500	39,5-42,5 36,0-39,5			600	1,1-1,3

Checking values in brackets

* 1 mm less control rod travel than col. 2

①

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MB 5,7 i 3

1. Edition

PES 6 A 80 C 410 RS 2194 Z

RQV 300-1475 AB 627 D

supersedes

companDaimler-Benz engine OM 352 74 kW (100 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2.15-2.25

Port closing at pret	stroke	(2 10-2 30)	mm (from BDC	3)						
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6				
1000	9	4,4-4,8	0,3							
	6	1,8-2,6								
200	9	2,4-3,4								
	İ	Ĭ			1					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp		Lower rated	speed		Sliding	leeve travel
deflection	rev/min Control rod travel	Control rod travel	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel	C	1
	mm	rev/min 2a	lever	rev/min	mm (4)	lever	rev/min,	mm (3)	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
ca. 66	1475 1600 1700 1800 1850	16,0-19,0 8,5-13,5 1,6-8,5 0-3,0 0	-	-	-	ca. 10	100 300 500 600 770	6,7-8,0 4,8-6,5 2,5-3,7 1,3-2,7	660	0,8-1,1 3,8-4,0 5,7-5,9 8,9
		,				3 e				

Torque control travel a = 1.2 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed	Fuel deli- high idle s	very characteristics 56	Starting Idle switchli	. •	Torque- travel	control 5
rev/min	cm³/1000 strokes	rev/min 40	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	
1450	41,0-43,0 (40,0-44,0)	1505-1515*	1000 800 500	38,5-41,5 39,5-42,5 36,0-39,5	100	72,5-82,5	1475 600	0 1,1-1,3

Checking values in brackets

* 1 mm less control rod travel than col. 2

WPP 001/4 VMA 5,3 a

1. Edition

En

PES 6 A 90 D 410 RS 2511

RSF 250-1100 A 1 C 2185 L

supersedes

Komb.-Nr. 0 400 876 319

company Motori VM 1156 DAN (T)

Port closing difference between control-rod travel 8.5 and max. = 6 - 7.5° camshaft.

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings
3,3-3,4
Port closing at prestroke (3,25-3,45) mm

mm (from BDC)RW = 7,5 mm

Rotational speed	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm //100 strokes	cm ¹ / 100 strokes 4	mm 2	cm 7100 strokes 3	mm 6
1100	10,5+0,1	8,8-8,9	0,3 (0,5)		·	
250	7,4-7,6	1,7-2,3	0,25 (0,45			
	_					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever 1	leffection travel travel travel travel travel travel travel travel		Intermediate rated speed 4 5 6		Control- lever deflection in degrees		rated speed Control rod travel (3) io		rque control Control rod travel mm	
loose	800 X =	0,3-1,0 4,0	•	-	•	ca. 21	100	7,0 min.19,5	1100 450	10,5-10,6 10,5-10,7
ca.56	9,5 4,0 1340	1140-1150 1175-1205 0,3-1,7					250 385-445	7,4-7,6 = 2,0	300	11,8-12,4

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

C	ill-load stop	6 Rotational- speed limital		uel delivery paracteristics	Starting f	uel delivery 5	4a Idle stop	
Test oil to	emp 40°C (104°F) cm³/1000 strakes 2	Note: changed to :) rev/min 3	rev/min	cm ¹ /1000 strokes	rev/min 6	cm³/1000 strckes 7	rev/min 8	Control root travel mm
1100	87,5-88,5 (85,5-90,5)	1140-1150*	-	-	_	-	•	-

Checking values in brackets

* 1 mm less control rod travel than col 2

10.84

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WPP 001/4 KHD 4,1 c 3
1. Edition

En

PES 4 A 80 D 410/3 RS 2523

RSV 325-1400 A2B 1022 DL

supersedes*

company engine

F4L 912

Komb.-Nr. 0 400 864 043

64 kW/2800 min⁻¹

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,9-2,0 (1,85-2,05)

mm (from BDC)

Rotational speed rev/min 1	Control rod travel	Fuel delivery cm1/100 strokes 3	Difference cm ^y 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ¹ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1400	12,0+0,1	6,9-7,1	0,2(0,35)		·]
325	8,8-9,0	0,9-1,5	0,2(0,3)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		Interme	diate rated	speed i	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	1(3)	rque control Control rod travel mm
loose	800 X =	0,3-1,0 4,5	•	-	-	ca.21	325 100	5.0 min.19,0	1400 935	12,0-12,1 12,3-12,4
ca.58	11,0 4,0 1650	1440-1450 1505-1535 0,3-1,7					325 525-5 700	5,4-5,6 85= 2,0 0 - 1,0	500	13,2-13,3

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	oil temp 40°C (104°F) Note.		3a Fuel delivery characteristics		Starting f	ruel delivery 5	da Idle stop		
rev/min 1	cm ¹ /1000 strokes 2	changed to) cev/min	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	travel mm 9	
1400	70,0-71,0 (68,5-72,5)	1440-1450*	850	61,5-63,5 (60,0-65,0)	-	-	-	-	

Checking values in brackets

* 1 mm less control rod travel than cot 2

BOSCH

WPP 001/4 MB 3,8 n

4. Edition

En

PES 4 A 90 D 410 RS2570

RSV 350-1400 AO B2070L

8.81 supersedes

Komb.-Nr. 0 400 874 226

Daimler-Benz

engine

OM 314 62 kW (84 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2,20-2,40)

Testoil-ISO 4113

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference cm³/ 100 strokes	Control rod travel	Fuel delivery	Spring pre-tensioning (torque control valve)
1	2	3	4	2	3	6
1380	11,9+0,1	6,1 - 6,3	0,3(0,45)			
350	8,8-9,0	0,5 - 1,3	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	Control rod travel mm	rev/min Control rod travel mm_rev/min 3	Interme	diate rate	d speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm 9	rev/min	rque control Control rod travel mm
loose	800 X =	0,3-1,0 3,25	-	-	-	ca.24	350	8,9**	1380 900	11,9+0,1 12,2+0,2
ca.57	1485-	1430=10,9 1505= 4,0 0,3-1,7					435-495	= 2,0mm	600	12,6+0,1

** Set idle-speed auxiliary spring at 2 mm control-rod travel.
The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill load stop	6 Rotational speed limitat	11.32	Fuel delivery characteristics		Starting fuel delivery 5		4a) Idle stop	
Test oil to	emp 40°C (104°F) cm³/1000 strokes 2	Note changed to) rev/min 3	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes	rev/min 8	Control rod travel mm	
1380	61,5-62,5 (59,5-64,5)	1420-1430*	600	53,0- 55,0 (50,5- 57,5)	100	78,0-88,0 (75,0-91,0)	-	_	
			900	59,0- 62,0 (56,5- 64,5)		!			
			}	}	<u> </u>	<u> </u>			

Checking values in brackets

* 1 mm less control rod travel than col. 2

Generator

WPP 001/4 DAF 8.3 n

6. Edition

En

PE 6 A 95 D 410 RS 2575

RSV 250-750 A 7 B 2124 L

DU 825

Komb.-Nr. 0 400 676 166

Specifications apply to test tubing 1 680 750 015

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers *

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC,RW 9,0 mm

	<u> </u>	1,95-2,15)				
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm1/100 strokes	cm ¹ / 100 strokes	mm	cm/100 strokes	mm
1	2	3	4	2	3	6
750	12,5+0,1	10,1-10,3	0,4(0,7)			
250	6,0-6,2	0,7-1,3	0,2(0,4)			
		Port closing and max. = 3		between c amshaft	ontrol-rod tra	vel 9mm

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	er raled speed	l rev/m:n	Interme	ediate rated	speed	(4)	Lowe	r rated speed	3) 10	orque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min 3	4	5	6	Control- lever deflection in degrees 7	rev/min 8	Control rod travel mm	rev/min	Control rod travel mm
lose	800	0,3-1,0	-	-	_	ca. 15	250	6,1	-	-
	x =	4,25					250	**]	
ca. 40	11,5 4,0 955	770-780 785-805 0,3-1,7					260-3	20 = 2,0 m	1173	

**
The numbers denote the sequence of the less idle-speed auxiliary spring at 2.0 mm control-rod travel, then 1/2 turn back.

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	6 Rotational- speed limitat		uel delivery naracteristics	Starting (fuel delivery 5	40 ld	e stop
rev/min	emp 40°C (104°F) cm ^{1/1000} strokes 2	Note. changed to .) rev/min 3	rev/min	cm ^{1/1000} strokes 5	rev/min	cm1/1000 strokes 7	rev/min 8	Control rod travel mm
750	100,5-102,5 (98,5-104,5)	770-780*	-	-	100	19,5-21,0 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col 2

WPP 001/4 DAF 8,3 n 2 2. Edition

PE 6 A 95 D 410 RS 2575 Y

RSV 250-750 A 7 B 2124 L

supersede 6.83

Komb.-Nr. 0 400 676 172

company DAF

Specifications apply to test tubing 1 680 750 015

engine **DHTD 825**

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,0 - 2,1 (1,95-2,15)

mm (from BDQRW = 7,5 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm ¹ /100 strokes	cm ¹ / 100 strokes	mm	cm/100 strokes	mm
1	2	3	4	2	3	6
750	13,2+0,1	11,1 - 11,3	0,4(0,6)			
250	6,0-6,2	0,7 - 1,3	0,2			
		POrt closing and max. = 3	difference - 4° camsh	between co aft	ontrol.rod tra	/e1 9 mm

Adjust the fuel delivery from each outlet according to the values in lacksquare

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm		Intermed	diate rated	speed	Control- lever dellection in degrees 7		rated speed Control rod travel mm	3 To	rque control Control rod travel mm
loose	800 x =	0,3-1,0 4,25	-	-	••	ca.16	250 250	6,1 6,0-6,2 2,0**	-	-
ca. 40	12,2 4,0 995	770-780 785-805 0,3-1,7					260-320=	2,0**		

The numbers denote the sequence of the test idle-speed auxiliary spring at 2.0 mm control-rod travel, then 1/2 turn back.

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) F	ull-load stop	6 Rotational- speed limitat		uel delivery naracteristics	Starting f	uel delivery 5	4a) 'd'	e stop
Test oil to rev/min 1	emp 40°C (104°F) cm /1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ¹ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9
750	110,5-112,5 108,5-144,5)	770-780*	-	-	100	19,5-21,0 mm RW	_	-

Checking values in brackets

* 1 mm less control rod travel than col 2

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WPP 001/4 KHD 9,6 o

1. Edition

En

PE 6 A 95 D 410 LS 2587

RSV 300 - 1150 A 8 C 1002 -

Komb.-Nr. 0 400 676 173

company KHD

engine F 6 L 413 F

118 kW/2300 min⁻¹ Kompressor

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

1,5 - 1,6 (1,45-1,65)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve
rev/min	mm (2)	cm1/100 strokes	cm ¹ / 100 strokes	mm	cm1/100 strokes	mm
1	2	3	4	2	3	6
1150	9,5-9,6	7,9 - 8,1	0,35 (0,6)		·	
300	6,4-6.6	1,0 - 1,6	0,35(0,55)			
		ì				
	İ			1		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1) Uppe	r rated speed	rev/min	Interme	diate rated	speed	(4)	Lower	rated speed	(3) 10	rque control
Degree of deflection	Control rod travel	Control rod travel	ļ			Control- lever		Control rod travel		Control rod travel
of control lever 1	mm 2	mm rev/min	4	5	6	deflection in degrees 7	rev/min 8	mm 9	rev/min 10	mm 11
loose	800	0,3 - 0,7	•	_	_	ca. 17	300	6,0	1150	9,5 - 9,6
10056	x =	3,75					100	min. i9,5		9,8 - 9,9
ca. 64	8,5 4,0 1415	1190-1200 1250-1280 0,3-1,4					300 540-600	6,4-6,6 = 2,0	740	9,5 - 9,7

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

es rev/min B	Control root travel mm
0.0 -	-

Checking values in brackets

* 1 mm less control rod travel than col 2

10.84

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Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 KHD 15,8 m 1 Edition

En

PE 10 A 95 D 610/4 LS 2589 RQV 300-1150 AB 1086 L Komb.-Nr. 0 400 649 241 1 - 10- 9 - 4 - 3 - 6 - 5 - 8 - 7 - 2 0 - 27- 72- 99-144-171-216-243-288-315° ± 0,5° (± 0,75°)

company KHD engine F 10 L 413

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

1 2 3	:m ³ /100 strokes	cm ³ / 100 strokes	mm	cm ³ /100 strokes	į.
1150 8,5-8,6			2	3	6
	7,9 - 8,1	0,35(0,6)		·	
300 6,4-6,6	1,0 - 1,6	0,35(0,55)		7

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	speed		Intermediat	e rated sp	eed		Lower rated	speed			Cliding	lagua teaual
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm rev/min 2s	of control	rev/min 5	Control ro travel mm 6	d •	Degree of deflection of control lever 7	rev/min	Control ro travel mm	3	rev/min	mm
max.	1170	15,2-17,8	-	-	-	-	ca. 20	300	6,4-6	,6	250	0,3-0,5 2,8-3,1
ca. 58	7,5 4,0 1350	1190-1200 1205-1235 0 - 1,0	ł				20-540				000	6,4-6,7 8,8-9,2
							3 a					

Torque control travel a = 0,90 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		Rotational-speed 2b limitation intermediate speed	Fuel deli- high idle s	very characteristics (5a)	Starting Idle switchir	. •	Torque- travel	control 5
rev/min	cm³/1000 strokes	rev/min 49	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
7	2	3	4	5	6	7	8	s
1150	79,0-81,0 (77,0-83,0)	1190-1200*	800	85,5-88,5 (83,0-91,0)	100	120,0-130,0 (117,0-133,0)	500	

Checking values in brackets

* 1 mm less control rod travel than col. 2

10.84

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Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 KHD 1 g 12 1. Edition

PES 6 A 85 D 410 RS 2591 Komb.-Nr. 0 400 876 320

RSV 325-1150 A 8 C 2020

supersedes-

company KHD

BF 6 L 913

117 kW/2300 min⁻¹ Schlepper DX 7,10

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,5 - 2,6(2,45-2,65)

mm (from BDC) RW = 9.0 - 12.0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm1/100 strokes	100 strokes	mm 2	cm /100 strokes	mm 6
1200	12,4+0,1	8,6 - 8,7	0,3(0,45)		·	
325	7,4-7,6	1,0 - 1,6	0,2(0,4)			
]						

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1) Uppe	r rated speed	l rev/min	Interme	ediate rate	d speed	(4)	Lowe	rated speed	(3) 10	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min 3	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm 11
loose	800 x =	0,3-0,7 4,0	•	•	-	ca. 17	100	7,0 min.19,5	1200 500	12,4-12,5 13,5-13,6
ca. 55	11,6 4,0 1485	1240-1250 1320-1350 0,3 - 1,4	•				325 595-65	7,4-7,6 = 2,0	1000	12,9-13,1

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b F1	ull-load stop	6 Rotational- speed limitat		uel delivery naracteristics	Starting I	fuel delivery 5	4a Idle stop		
Test oil to revimin 1	emp 40°C (104°F) cm'/1000 strokes	Note changed to) rev/min 3	rev/min	cm ¹ /1000 strokes	rev/min	cm ¹ /1000 strokes	rev/min	Control root travel mm	
LDA 1200	0,7 bar 85,5-86,5 (83,5-88,5)	1240-1250*	LDA 500	0 bar 65,0-67,0 (63,0-69,0)	100	110,0-120 (107,0-123			

Checking values in brackets

* 1 mm less control rod travel than col 2



KHD 1 g 12

- 2 -

Testatn =

500 rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure "bar	Gauge pressure - bar	mm (1)
PES 6 ARS2591 +RSVA 8 C 2020		0 0,28 0,11	13,5 - 13,6 12,2 - 12,3 13,2 - 13,3 12,6 - 12,8

Notes

(1) when n =

rev/min and gauge;pressure =

bar (= maximum full-load control rod travel)

①

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 KHD 6.1 k 3 5. Edition

PES 6 A 85 D 410/3 RS 2592

RQV 300-1250 AB 1188 L

Komb.-Nr. 0 400 836 028

supersedes5.84 company KHD BE 6 L 913 engine 118 kW/2500 min⁻¹

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,2 - 2,3 2 15-2 35 Port closing at prestroke mm (from BDC)

	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	12,0+0,1	8,9 - 9,0	0,3(0,5)		·	
300	6,9-7,1	0,9 - 1,5	0,25(0,45)		

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	speed			Intermediate	rated sp	eed		Lower rated	speed		Sliding s	leeve travel
Degree of deflection of control lever	rodtravel	Control rod travel mm rev/min 3	(a) (28)	Degree of deflection of control lever	rev/min 5	Control root travel mm: 6	(Degree of deflection of control lever 7	rev/min 8	Control rod travel mm 3		mm 11
max. ca. 65	1290 11,0 4,0	1290-13	300	-	-	-		ca. 13 355-470	300	min.8,5 6,9-7,1		1,5-1,7 4,9-5,1 7,1-7,3 9,9
								(3a)				

0,8 mm Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roo Test oil ten				very characteristics 5e speed 50	Starting Idle switchir		Torque travel	control (5)
rev/min	cm³/1000 strokes	rev/min 49	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	fëv/imin A	travel mm
'	-		 `		-	<u> </u>	<u> </u>	<u> </u>
LDA	0,7 bar	1290-1300*	LDA	0,7 bar	100	110,-120,0	1250	12,0+0.
1250	88,5-89,5		600	82,5-84,5		(107,0-123,0	500	12,8+0,
	(86,5-91,5)			(80,0-87,0)		= 17,1-17,5		12,5+0,
					•	mm RW		12,1+0,
LDA	0.7 bar		LDA	0 bar				
800	85,0-88,0		500	59,0-61,0	l '			
	(83,0-90,0)			(57,0-63,0)	1		1	

Checking values in brackets

* 1 mm less control rod travel than col. 2



KHD 6,1 k 3

Test at n =

500 rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure bar	Gauge pressure - bar	mm (1)
PES 6 ARS 2592 + RQVAB 1188 L	0,70	0 0,26 0,19	12,8 - 12,9 10,9 - 11,1 12,4 - 12,5 11,9 - 12,1

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 KHD 1 g 6

4. Edition

En

PES4A85D 410/3 RS 2610

RSV 325-1150 A8B 2102 L A8C 2102 L supersedes 9.83 company KHD

Komb.-Nr. 0 400 864 051

engine F4L913

55 kW Schlepper D 7807-S 16

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 411

2,5-2,6 (2,45-2,65)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre tensioning (torque-control valve)
rev/min	mm (2)	cm1/100 strokes	cm ⁻ / 100 strokes	mm	cm ¹ /100 strokes	mm
1	2	3	4	2	3	6
1175	11,2+0,1	6,7-6,8	0,3(0,45)		•	
325	8,7-8,9	0,9-1,5	0,25(0,45			
			}			
			İ			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

11.	effection travel travel mm rev/min		Intermediate rated speed 4 5 6		Control- lever deflection in degrees 7 Lower rated speed Control (Control rod travel mm) rev/min mm graph mm			3 forque control Control rod travel mm		
loose	800 X =	0,3-0,7 4,0	-	-	-	ca.17	325 325	8,3 8,7-8,9	1150 500	
ca.53	10,2 4,0 1400	1215-1225 1270-1300 0,3-1,4					450-510	= 2,0	870	11,4-11,6

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

C	ili-load stop	Rotational speed limitat 3a Fuel delivery characteristics			Starting fuel delivery 5 4a Idle stop				
rev/min	emp_40°C (104°F) cm ³ /1000 strokes	Note changed to) rev/min	rev/min	cm ¹ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm	
1	2	3	4	5	6	7	8	9	
1175	66,5-67,5 (64,5-69,5)	1215-1225*	800	61,0-63,0 (58,5-65,5)	_	-	-	-	
					-	Į			
								-	

Checking values in brackets

* 1 mm less control rod travel than col. 2

9.84

BOSCH

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Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 MWM 6,2 e 3 1. Edition

En

PES 6 A 90 D 320/3 RS 2660

Komb.-Nr. 0 400 866 114

RSV 325-1200 AOC 2182-1R

supersedes** MWM

compa engine

TD 226 B-6

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

(2.90-3.10)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre tensioning (torque control valve)
rev/min	mm (2)	cm ¹ /100 strokes	cm 7 100 strokes	mm	cm//100 strokes	mm
1	2	3	4	2	3	6
1200	11,0+0,1	9,9-10,0	0,3(0,45)		·	
325	5,9-6,1	0,8-1,4	0,25(0,4)			
				}		
		Ì				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	er rated spec		Intermediate rated speed			(4)	Lowe	3 Torque control		
Degree of deflection of control lever	Control root travel mm	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm
	-		<u> </u>			 	 	5.5		
loose	008 X =	0,3-1,0 3,25	-	-	-	ca.17	325 325	5,5 5,9-6,1	1200 500	11,0-11,1
ca.45	10,0 4,0 1455	1240-1250 1285-1315 0,3-1,4					455-5	15 = 2,0	1110	11,2-11,4

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

160	ill load stop	Rotational Speed limitat Speed limitat Speed limitat			Starting fuel delivery 5 4a Idle stop			
fest oil to	emp 40°C (104°F) cm ^{1/} 1000 strokes 2	Note changed to 1 rev/min 3	rev/min 4	cm ^{1/} 1000 strokes 5	rev/min	cm ^{1/} 1000 strokes 7	rev/min	Control rod travel mm
LDA 1200	0,7 bar 99,0-100,0 (97,0-102,0)	1240-1250*	LDA 500	0 bar 62,0-63,0 60,0-65,0)	100	135,0-145, (132,0-148 =19,5- 21,0 mm RW		-

Checking values in brackets

1 mm less control rod travel than col. 2

9.84



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MWM 6,2 e 3 -2-

Test at n =

500 rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travet difference
	Gauge pressure - bar	Gauge pressure = bar	mm (1)
PES6ARS2660	0,70		11,5-11,6
+RSVAOC2182-1R		0 0,46 0,21	9,2-9,3 11,0-11,1 9,8-10,0

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)



Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 6.0 a

1. Edition

PES 6 A 90 D 410 RS 2667

RQV 300-1400 AB 1065-4 L

Komb.-Nr. 0 400 846 522

Specifications apply to test tubing 1 680 750 015

supersedes

Daimler-Benz company OM 366

100 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1400	11,1+0,1	6,4-6,5	0,3(0,45)			
300	8,7-8,9	0,9-1,3	0,2(0,4)			
			<u> </u>			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever 1	Upper rated	speed		Intermediate	e rated sp	eed	Lower rated	speed		Sliding steeve travel	
300 8,7-8,9 630 3,8- 580-640=2,0 020 5,3- 1400 7,	deflection of control	Control rod travel	travel (18	deflection	rev/min 5	mm 4	deflection of control		travel	rev/min	mm (1)
ca. 65 10,1 1440-1450	max.	1500	15,2-17,8	-	-	-	ca. 21	L.			0,7-0,9 3,8-3,9
1630 0-1,0	ca. 65	4,0	1545-1575					580-	640=2,0		5,3-5,4 7,7

Torque control travel a = 1,1

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		limitation intermediate speed	high idle s	very characteristics (5a)	Idle	fuel dalivery (6)	Torque-control (5 travel Control ro	
rev/min	cm³/1000 strokes	rev/min 4e	rav/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
<u> </u>	2	3	4	5	6	7	8	9
1400	63,5-64,5 (61,5-66,5)	1440-1450*	500	51,0-54,0 (48,5-56,5)	100	78,0-88,0 (75,0-91,0)		11,1+0,1 12,2+0,1
			900	53,5-56,5 (51,0-59,0)		=16,4-17,0 mm RW		11,7+0,2 11,5+0,3

Checking values in brackets

1 mm less control rod travel than col. 2

BOSCH 621

Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 KHD 12,6 b 1 1. Edition

PE 8 AM 80 D 310 RS 2004 Komb.-Nr. 0 405 078 204

RSV 200-1150 A 4 C A 4 B 73 DL

company F 8 L 714 A

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,10-2,30)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre tensioning (torque control valve)
rev/min 1	mm 2	cm:/100 strokes	cm ^{-/} 100 strokes 4	mm 2	cm/100 strokes	mm 6
1000	12,0	7,4 - 7,8	0,4			
200	9,0 15,0 9,0	3,9 - 4,7 10,3 -11,4 2,8 - 3,6				

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

11.	r rated speed Control rod travel mm		Interme	diate rate	d speed	Control lever deflection in degrees 7	Lower	rated speed Control rod travel mm 9	ハッノ	rque control Control rod travel min 11
ca.72	1150 1200 1230	16,0 9,0 4,5	with	out au	xiliar	ca. 25 y spring	100	6,0		0
29	1180 1200 1250 1350	11,0-13,0 7,0-10,5 2,2-4,5	with	auxil	iary s	pring	200 300 400 550	5,7- 6,3 3,6- 5,0 0,4- 3,4 0- 1,0	400	0,7 - 0,9 1,1 - 1,3

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b Fu	II load stop	6 Rotational- speed limitat	uel delivery paracteristics	Starting fuel delivery 5			(4a) Idle stop		
Test oil temp 40°C (104°F) rev/min cm ¹ /1000 strokes		Note changed to) rev/min	rev/min	cm ¹ /1000 strokes	rev/min	cm1/1000 strokes	rev/min	Control rod travel mm	
1	2	3	4	5	6	7	8	9	
1150	72,0 - 73,0 (70,5 - 74,5)		800	75,0 - 77,0 (37,5 - 78,5)	-	-	-	-	
			600	75,5 - 77,5 (74,0 - 79,0)				:	
				(74,0 - 75,0)					

Checking values in brackets

* 1 mm less control rod travel than col. 2

10.84

Geschaftsbereich KH. Kundendienst. Ktz-Ausrustung. c. 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

①

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 VOL 6,0 m

4. Edition

estation 4113

PES 6 MW 100/320 RS 1004 RQV 300... 1250 MW 20 Komb.-Nr. 0 03 446 116

supers5de\$2
compa\$D 60 B
engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2.8-2.9

Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
1000	10,6+0,1	8,35-8,55	0,35(0,6)			
300	5,4-5,6	0,95-1,35	0,35(0,55 0,5 (0,7)			
					ļ	
					1	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermedia	te rated sp	eed	Lower rated	speed		Stiding s	ieeve travel
Degree of deflection of control lever	rev/min Control rod travel mm	(rave)	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	mm 11
max.	1325 1500	15,2-17, 0 - 1,0	8			ca. 12		min.6,9 5,4-5,6		
ca. 63	9,6 4,0	1290-1300 1340-1370					300-39	90 = 2,0	1	
						3a				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed	Fuel delin high idle s	very characteristics (5a)	!≾ !e	fuel delivery 6	Torque- travel	Control Control roc
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm³/1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
LDA 1000	0,7 bar 83,5-85,5 (81,5-87,5)	1290-1300*	LDA 500	0 bar 52,5-54,5 (50,0-57,0)	100	19-21 mm RW 120-130 (117-133)		

Chucking values in brackets

* 1 mm less control rod travel than col. 2

-2-

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

VOL 6,0 m

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure	bar Gauge pressure =	bar mm (1)
RS 1004	0,7		10,6 - 10,7
with MW 20		0,27 0,56 0	9,8 - 9,9 10,4 - 10,5 10,0 - 10,1

Notes

(1) when n =

rev/min and gauge pressure -

bar (- maximum full-load control rod travel)

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 VOL 6,0 V 1
1. Edition

En

RES 6 MW 100/320 RS 1004 RQV 300-1250 MW 33 0 403 446 125

companWolvo engine TD 60 B 116,5 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,80-2,90 mm (from BDC) RW = 9.0 - 12.0 mmPort closing at prestroke Rotational speed **Fuel delivery Fuel delivery** Spring pre-tensioning (torque-control valve) Control rod Difference Control rod cm³/ rev/min mm cm³/100 strakes 100 strokes mm cm³/100 strokes mm 1000 10,6+0,1 8,35-8,55 0.35(0.6) 300 5,4-5,6 0,95-1,35 0,35(0,55 500 10,0+0,1 0,5 (0,7)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated :	speed	•	Intermediat	Intermediate rated speed			speed		Stiding *	leave travel
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod ta travel mm rev/min (28	of control	rev/min	Control rod travel mm 4	Degree of deflection of control fever	rev/min	Control rod travel mm 3	rev/min	mm
max.	1320 1500		3			ca. 11	300 100	5,4-5,6 min.6,9		
ca. 59	9,6 4,0	1290-1309 1390-1429			}					
						3 a	320-5	500		

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2 rev/min cm³/1000 strokes		Rotational-speed ②b timitation intormediate speed rev/min	high idle s	very characteristics 5a speed 5b cm³/1000 strokes	idie switchir	• •	Torque- travel	Control 5 Control rod travel mm
1	2	3	4	5	6	7	8	9
LDA 1000	0,7 bar 83,5-85,5 (81,5-87,5)	1290-1300*	LDA 500	0 bar 52,5-54,5 (50,0-57,0)	100 300	120,0-130,0 (117,0-133,0) 9,5-13,5 (7,0-16,0)		

Checking values in brackets

* 1 mm less control rod travel than col. 2

10.84

BOSCH

-2-

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

VOL 6,0 V 1

Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure =	bar Gauge pressure =	bar mm (1)
RS 1004 with MW 33	0,7	0,27 0,56 0	10,6 - 10,7 9,8 - 9,9 10,4 - 10,5 10,0 - 10,1

Notes

(1) when n =

rev/min and gauge pressure =

bar (- maximum full-load control rod travel)

Testoil-ISO 4113

1

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 VOL 6,0 V 1. Edition

En

estail-150 4113

PES 6 MW 100/320 RS 1004 RQV 300-1150 MW 54 0 403 446 148

1-5-3-6-2-4 $0-60-120-180-240-300 \pm 0,50 (0,75)$ supersedes
compan¥OIVO BM

engine TD 60 LLK 125 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings 2,80-2,90

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve) mm
700	11,4+0,1	9,6-9,8	0,35(0,6)			
300	5,0-5,1	1,0-1,4	0,35(0,55			
1000	11,4+0,1		0,5 (0,7)			
700	10,7+0,1					
		<u> </u>		<u></u>	<u> </u>	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed			Intermediate	rated sp	eed	Lower rated	speed	•	Slidina s	leeve travel
	rev/min Control rod travel	Control rod ((6)	Degree of deflection of control		Control rod travel	Degree of deflection of control		Control rod travel		1
lever	mm	rev/min ((29)		rev/min	mm (4)	lever	rev/min	mm (3)	rev/min	mm
1	2	3		4	5	6	7	8	9	10	11
max.	1150 1300	15,2-17, 0-1,0					ca. 14		5,0-5,1 min.6,8	700	8,4-8,6 3,6-3,8
ca. 51		1190-120 1235-126		:						300	1,0-1,5
							<u>3</u>	320-	450		

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		Rotational-speed (2b) timitation intermediate speed			Starting Idle switching		₹orque- travel	control (5)
rev/min	cm³/1000 strokes	rev/min 49	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	trevel mm
LDA 700	0,7 bar 96,0-98,0 (94,0-100,0)	1;90-1200*	LDA 1000 LDA 700	0,7 bar 98,0-102,0 (95,5-104,5) 0 bar 82,0-84,0 (79,5-86,5)	100 300	130,0-140,0 (127,0-143,0 10,0-14,0 (7,5-16,5))	9

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

VOL 6,0 V

Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure - bar	Gauge pressure = bar	mm (1) .
RS 1004 with MW 54	0,7	0,5 0,38 0	11,4 - 11,5 11,2 - 11,3 10,8 - 10,9 10,7 - 10,8

Notes

(1) when n \approx

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 PEN 6,0 e 4. Edition

En

oil-150 4113

PES 6 MW 100/320 RS 1004 0 403 476 011

RSV 325-1250 MWOA 308

supersedes1.84
company Volvo/Penta

company TD 60 D engine 118 kW (160 PS)

1-5-3-6-2-4 $0-60-120-180-240-300 \pm 0.50 (0.75)$

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,80-2,90

Port closing at prestroke (2,75-2,95)

mm (from BDC) RW 9,0-12,0 mm

Rotational speed rev/min	Control rod travel	Fuel delivery cm /100 strokes	Difference cm ^{-y} 100 strokes	Control rod travel mm	Fuel delivery cm*/100 strokes	Spring pre-tensioning (torque-control valve) mm
1000	10,5+0,1	8,95-9,15	0,35(0,6)		·	
325	4,3-4,5	1,0 - 1,3	0,35(0,55			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	r rated speed	rev/min	Intermediate rated speed			(4)	Lower	(3) 10	rque control	
Degree of deflection	Control rod travel	Control rod travel				Control-]	Control rod travel		Control rod travel
of control	mm	mm rev/min	1			deflection in degrees	rev/min	mm	rev/min	mm
1	2	3	4	5	6_	7	8	9	10	11
loose	800	0,3-0,7			· <u></u>	ca. 21	325	3,9	350	11,1+0,1
loose	x =	4,0					325	4,3-4,5	500	10,8+0,1
ca.49		330 = 9,6 $365 = 4,0$					380-430	= 2,0	1250	10,5+0,1
29		0,3-1,7								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) F	ull-load stop	6 Rotational- speed limitat	(3a) [uel delivery paracteristics	Starting t	uel delivery 5	(4a) Idle stop		
Test oil to rev/min 1	emp 40°C (104°F) cm ¹ /1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes 7	rev/min 8	Control rod travel mm	
1000	89,5-91,5 (87,5-93,5)	1290-1300*			100 325	min. 140 10,0-13,0 (7,5-15,5	325)	4,4	

Checking values in brackets

10.84

BOSCH

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^{* 1} mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 FIA 8,1 b

3. Edition

estoil-iSO 411

PES 6 MW 100/720 RS 1008 0 403 446 112

ROV 300 ... 1300 MW 13 DR

supersedes5.82 company: Fiat 8360.05

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,50-2,60

mm (from BDC) RW 9.0-12.0

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1300	12,5 ^{+0,2}	8,85-9,05	0,35(0,6)		·	
300	7,4-7,6	0,95-1,35	0,35(0,55)		
800	13,0+0,		0,5 (0,7)	<u>}</u>		

Adjust the fuel delivery from each outlet according to the values in f

B. Governor Settings

Upper rated	speed		Intermediate	Intermediate rated speed			Lower rated speed				leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min 28	deflection of control	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control root travel mm	3	rev/min	mm (1)
1	2	3	4	5	6	7	8	9		10	11
max.	1300 1600	15,2-17,8 0,0-1,0	-	-	_	10-18		min.9,5 7,5-7,6		300 700-	0,8-0,9 770 3,4
56-64	11,6 4,0	1350-1360 1440-1470				(3e)	380-4	85	1	340-	

Torque control travel a = 0.5

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2		fimitation intermediate speed	Fuel delivery characteristics		Starting idle switchir	. •	Torque-	Control rod
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	
1300	88,5-90,5 (86,5-92,5)	1350-1360*	800	(84,5-92,5		135-145 19,7-20,4 egelung 12 V	1200 12,5- 900 13,0-	12,7
					300	9,5-13,5 (7,0-16,0)	13,0	13,2

Checking values in brackets

1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps 1 MPP 001/4 PER 10,0 a and Governors

7 - Edition

PES 8 MW 100/320 RS 1011 RQV 375... 1300 MW 18 Komb.-Nr. 0 403 448 101

supersetes 82 companyPerkins engine AV 8.640

Port-closing mark on rear side

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

bei RW = 9.0 - 12.0 mmPort closing at prestroke mm (from BDC)

Rotational spead rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1300	10,8+0,1	9,45-9,65	0,35(0,6)			
375	4,9-5,1	1,05-1,45	0,35(0,55)		
800			0,5 (0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated a	peed		Intermediate	rated sp	eed	Lower rated	speed		Sliding sleeve travel	
deflection	rev/min Control	travel 😃	Degree of deflection		Control rod travel	Degree of deflection		Control rod travel		1
	rod travel mm		of control lever	rev/min	mm 4	of control lever	rev/min	mm ③	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
max.	1300	15,2-17,8	30-50	700	4,7	ca.12	100	min. 6,6	375	1,2-1,3
	1600	0,1-1,0		450	8,3		375	4,9-5,1	515- 575	2,6
ca. 65	9,8 4.0	1365-1375 1435-1465					520-5	80 = 2,0	1370- 1390	8,5
	,,					3a	<u> </u>			

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp 40°C (104°F) rev/min cm³/1000 strokes		Rotational-speed 2b limitation stemediate speed rev/min	(30)		ldle switchin	. 0	Torque- travel	Control od travel
1	2	3	4	5	6	7	8	9
1300	94,5-96,5 (92,5-98,5)	1365-1375*		89,0-91,0 (87,0-95,0)	100 375	min. 140 10,5-14,5 (8,5-17,0) Jmschaltpunkt 100-290 (80-310)	·	

Checking values in brackets

* 1 mm less control rod travel than col. 2

Port closing and TDC markings

Comb.-No.

... 101

 $^{\rm O}$ camshaft between port-closing and TDC

at control-rod travel 10,5 mm

at control-rod travel
21 mm (Start)

10,5°

17°

En

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 FIA 5,5 g 1

1. Edition

PES 6 MW 90/720 RS 1015-1 0 403 446 146

ROV 300-1600 MW 49

superseque

companJVECO-Fiat engine 8062.24.668

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pre	Port closing at prestroke (2.45-2.65) mm (from BDC)RW = 9,0 - 12,0 mm										
Rotational speed rev/min	1	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strakes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6					
1000	10,4+0,1	7,6-7,8	0,35(0,6)								
375	6,6-6,7	1,0-1,4	0,35(0,55		 						
1600	10,4+0,1		0,5 (0,7)								
500	8,9-9,0										

n = 300 min/1 has been shown on the name plate. **B. Governor Settings**

Upper rated s	speed		Intermediate	rated sp	eed	Lower rated	speed		Stiding	leeve travel
	rev/min Control rod travel mm 2	travel (Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min	Control rod travel mm 3	rev/min	mm
max.	1640 1900	15,2-17, 0-1,0				ca. 16	375 100	6,6-6,7 min.9,0		
ca. 63	9,4 4,0	1640-165 1770-180						·		
						3 a	390-8	380		

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b timitation intermediate speed			Starting Idle switchir	. •	Torque- travei	Control Control	
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes		cm ³ /1000 strokes	rev/min	travel mm	
LDA 1000	0,5 bar 76,0-78,0 (74,0-80,0)	1640-1650*	LDA 1600 LDA 500	0,5 bar 82,0-86,0 (80,0-88,0) 0 bar 42,5-44,5 (40,5-46,5)	200 375	160,0-180,0 (157,0-183,0) 10,0-14,0 (9,0-15,0)	8	9	

Checking values in brackets

^{* 1} mm less control rod travel than col. 2

-2-

Testatn =

500

rev/min decreasing pressure - in bar gauge pressure

FIA 5,5 g 1

Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure : bar	Gauge pressure = bar	mm (1) .
RS 1015 with RQVMW 49	0,5	0 0,21 0,18	10,4 - 10,5 8,9 - 9,0 10,0 - 10,1 9,3 - 9,4

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 RVI 8,8 f

En

\$2000 and

PES 6 MW 100/320 RS 1016 0 403 446 129 *

RQV 300-1400 MW 25,2

supersedes84

1- 5- 3 - 6 - 2 - 4 0-60-120-180-240-300 * Start-of-delivery mark 8° after companRVI start of delivery with control-rod engine: MIDR 06.02-12 travel 10.5 mm. 125 kW (170 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke	3,00-3,10 (2.95-3.15)	mm (from BDC)	mm (from BDC) RW 9.0 - 12.0 mm							
Rotational speed	Control rod travel	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)					
1	3	3	_ 4	2	3	6					
1400	11,1+0,1	9,1-9,3	þ, 35(0,6)	l	l						
300	5,8-5,9	0,95-1,35	0,35(0,55								
900	11,1+0,1		0,5 (0,7)								
500	9,4+0,1		0,35(0,6)								
L					1	_1					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated :	speed		Intermediate	rated sp	eed	Lower rated	speed		Clidina	leeve travel
Degree of deflection of control lever		Control rod travel mm rev/min 2a	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min 8	Control rod travel mm 3	rev/min	0
max.	1400 1700	15,2-17,8 0-1,0	•	-	-	ca. 13	300 200	5,8-5,9 max.7,5		
ca. 62	10,1 4,0	1455-1465 1575-1605					490-5	550 = 2,0		
	1					3a				

Torque control travel 🚆 =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		I limitation intermediate speed			Starting Idle switching	,)	Torque- travel	Control cod	
rev/min	cm ³ /1000 strokes .	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strakes	rev/min	travel mm	
1	2	3	4	5	8	7	8	9	
LDA 1400	0,7 bar 91,0-93,0 (89,0-95,0)	1455-1465*	LDA 900	0,7 bar 86,0-90,0 (84,0-92,0)	100	94,0-104,0 (91,0-107,0)			
			LDA 500	0 bar 52,0-54,0 50,0-56,0	300 100-2	9,5-13,5 (7,0-16,0) 230 (80-250)			

Checking values in brackets

* 1 mm less control rod travel than col. 2

-2-

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure RVI 8,8 f

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure bar	Gauge pressure = bar	mm (1)
RS 1016 with RQVMW 25-2	0,12	0,16 0 0,7	9,9 - 10,0 10,7 - 10,8 9,4 - 9,5 11,1 - 11,2

Notes

(1) when n =

rev/min and gauge pressure -

bar (= maximum full-load control rod travel)

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 RVI 8,8 q

3. Edition

Testoil-ISO 4113

PES 6 MW 100/320 RS 1016

RQ 750 MW 42

supersedes 11.82

0 403 446 130

RVI company

MIDR 06.02-12 100 kW (136 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,95-3,15)

mm (from EDQN 9,0-12,0 mm

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	14,5+0,1	13,35-13,55	0,35(0,6			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	g of slider	Full-load s	•	_	cifications 4	Idle spe	-		cifications (5)	Torque o	control 3
rev/min	Control rod travel mm		Control red travel rmm	Central rad travel rnrr	rev/min	rev/min	Control red travel mm	rev/min	Control rod	rev/min	travel
				13,5 4,0	750-755 785-795						
785	3,9-4,1										
850	0,0-1,0										

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting t	luel delivery
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	cm ³ /1000 strokes:/ mm 7
700	133,5-135,5 (131,5-137,5)				i	19,0-21,0 RW min. 80,0

Checking values in brackets

. 10.84

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 PER 10,0 f

2. Edition

000-10190

ROV 500-1125 MW 30 PES 8 MW 100/720 RS 1020 0 403 448 107 1 - 8 - 7 - 5 - 4 - 3 - 6 - 2 0 - 45 - 90 - 135 - 180 - 225 - 270 - 315 - 0,50(0,75)

companyPerkins engine V8.640 GR 134 kW (182 PS)

Port-closing mark on rear side All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke	2,50-2,60 2,45-2,65)	mm (from BDC)	RW 9,0	-12,0 mm	
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3		2	3	6
1125	9,2+0,1	7,75-7,95	0,35(0,6)	<u></u>		
500	4,2-4,4	0,95-1,35	0,35(0,55)		
800	9,2-9,3		0,5 (0,7)			
	}				Ì	

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated	speed		Intermediate	e rated sp	eed	Lower rated	speed		Sliding	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm cev/min 2a	of control	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3		0
	 		 	 	 	 	 	<u> </u>		
max.	1125	15,2-17,8	-	-	-	ca. 14	500	4,2-4,4		
	1300	0 - 1,0				ł	100	min. 5,9		
ca. 64	8,2 4,0	1190-1200 1225-1255					590-6	550=2,0		
Cu. 04						3	390-0	JJU=2,U		

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed	Fuel deli- high idle :	very characteristics (5a) speed (5b)	Starting idie switchin		Torque- travel	Control od
rev/min	cm³/1000 strokes	rev/min 49	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
1125	77,5-79,5 (75,5-81,5)	1190-1200 *	800	73,0-77,0 (71,0-79,0)	100 100-4	RW min. 140,0		
					100-4			

Checking values in brackets

* 1 mm less control rod travel than col. 2

Port closing and TDC markings

Comb. - No.

° camshaft between port-closing and TDC

... 107 at control-rod travel 10,5 mm

15°

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 VOL 4,5 e

2. Edition

stoil-ISO 4113

PES 4 MW 100/320 RS 1102 0 403 444 107 RQV 300-1100 MW 39-5

supersede 7.84 Volvo company D 45

85 kW

0 403 444 107

.

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2.75 - 2.95)

mm (from BDC)ei RW = 9,0-12,0 mm

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	12,0+0,1	11,1-11,3	0,35(0,6		·	
300	5,8-5,9	1,3-1,7	0,35(0,5	5)		
1000	12,0+0,1		0,55(0,7	b]	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediate	rated sp	eed	Lower rated	speed		Sliding	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm cev/min 28	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min 8	Control rod travel mm 3	rev/min	0
max.	1200 1350	15,2-17,8 0-1,0				ca. 10	300 100	5,6-5,7 min. 8,1		
ca. 43	11,1	1140-1150 1210-1240					320-	650		
						3 9				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed	Fuel deli high idle :	very characteristics (5a)	Starting Idla awitchir	. •	Torque- travel	control 5
rev/min	cm³/1000 strokes	rav/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min 8	travel mm 9
700	111,0-113,0 (109,0-115,0		1000	112,0-116,0 (110,0-118,0)	300	19,0-21,0 mm RW 130,0-140,0 (127,0-143,0) 13,0-17,0 (10,5-19,5) 220 (80-250)		

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 VOL 4,5 g

3. Edition

PES 4 MW 100/320 RS 1102

RSV 300-1000 MW 1 A 315

supersedf Volvo

0 403 474 001 *At the minimum full-load stop, set a control-rod travel of 12.6-12.7 mm with n=1000 min/1. At the maximum full-load

stop, make the full-load adjustment according to test specifications.

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

tengine 84 kW

A. Fuel Injection Pump Settings

Port closing at prestroke

2,80-2,90 (2,75-2,95)

 $^{mm \, efrom \, BDG}$ bei RW = 9,0-12,0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm ¹ /100 strokes	cm ¹ / 100 strokes 4	mm 2	cm1/100 strokes	mm 6
700*	12,0+0,1	11,1-11,3	0,35(0,6)		·	
300	5,6-5,7	1,3-1,7	0,35(0,55) ;		
1000	12,0+0,1	<u> </u>	0,55(0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	er rated speed	rev/min	Interme	diate rated	speed	(4)	Lower	rated speed	3 Torque control		
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min 3	4	5	6	Control lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm	
loose	800	0,3-1,0		<u>. </u>	<u> </u>	ca. 12	300	5,1-5,2			
,,,,,,							300	5,6-5,7			
ca. 52	11,0 4,0 0,3-1,	1040-1050 1055-1085 7 1200					360-420	! =2,0			

The numbers denote the sequence of the tesis

C. Settings for Fuel Injection Pump with Fitted Governor

2b Fu	ill-load stop	6 Rotational- speed limitat	1100	uel delivery paracteristics	Starting Idle	fuel delivery 5	(4a) Idle stop		
Test oil to rev/min 1	t oil temp 40°C (104°F) /min		rev/min	cm ^{1/} 1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min 8	Control rod travel mm	
700	111,0-113,0 (109,0-115,0)	1040-1050*	1000	112,0-116,0 (110,0-118,0)	300	13,0-17,0 (10,5-19,5		5,6-5,	

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

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Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 KHD 12,7 t 1 1. Edition

PE 8 MW 100/720 LS 1117 RQ 300/1000 MW 52 0 403 548 005

supersedes. company KHD engine F 8 L 413 F 2 150 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(3.05-3.25)

mm (from BDC)

RW = 9,0-12,0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm ³ /100 strokes	100 strokes	mm 2	cm ³ /100 strokes	mm
600	10,7+0,1	9,2-9,4	0,35(0,6)		
300	7,1-7,2	1,1-1,5	0,35(0,55)		
1000	9,5-9,6		0,5(0,7)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1	Checking of slider Full-load speed regulation PRG check 1 Setting point Test specifications					Idle speed regulation Setting point Test specifications				Torque control		
rev/min	Control rod travel mm 2	rev/min 3	Control red travel mm 4	Control red travel mm 5	rev/min 6	rev/min	Control rod travel	rev/min 9	Control rod travel	rev/min 11	Control rod (travel	
520	19,2-20,8	520	20,0	8,5	1045-1060	300	7,1	100	min. 9,1	975	9,5-9,6	
120	0 - 1,0			4,0	1080-1110			300	7,1-7,2	650	10,7-10,8	

Torque control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	Full-load delivery on governor control lever (est oil temp. 40°C (104°F)		Control rod stop	39	Fuel delivery characteristics			Starting fuel delivery Idle speed		
rev/min t	cm³/~1000 strokes 2		rev/min 3		rev/min 4	cm³/~1000 strokes		rev/min 6	red travel cm ³ /1000 strokes/ mm 7	
600	92,0-94,0 (90,0-96,0)				1000	87,0-89,0 (84,5-91,5)		100	140,0-150,0 (137,0-153,0)	
					-			300	11,0-15,0 (8,5-17,5)	
								100- 230	(80-250)	

Checking values in brackets

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 KHD 12,7 t

1. Edition

PE 8 MW 100/720 LS 1117 RQ 300/1000 MW 52-1 0 403 548 009

companyKHD F 8 L 413 F Z

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke mm (from BDC)

RW = 9,0-12,0 mm

		3,03-3,23)				•
Rotational speed	Control rod travel	Fuel delivery cm ³ /100 strokes	cm³/	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
<u> </u>	2	3	4	2	3	6
650	11,4+0,	1 10,6-10,8	0,35(0,6)			
300	7,5-7,6	1,1-1,5	0,35(0,5)		
1150	,10,0+0,	1	0,5 (0,7			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	Control rod travel	Full-load : Setting po rev/min 3	•	•	rev/min	Idle spec Setting p rev/min 7	Control red travel	Test spe	cifications 5 Control rod travel mm	Torque o	Control rod (3)
550	19,2-20,8	550	20,0	9,0	1195-1210	300	7,5	100	min.9,0	1150	10,0-10,1
1350	0 - 1,0			4,0	1240-1270			300 35 0 -	7,5-7,6 380 = 2,0	İ	11,4-11,5 10,5-10,8
									•		

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting fuel delivery Idle speed		
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	Control red travel cm ³ /1000 strokes/ mm	
650	106,0-108,0 (104,0-110,0)		1150	96,0-98,0 (93,5-100,5)	100 300 100-2	130,0-140,0 (127,0-143,0) 11,0-15,0 (8,5-17,5) 30 (80-250)	

Checking values in brackets

10.84

BOSCH

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Test Specifications Fuel injection Pumps 2 WPP 001/4 KHD 12,7 t 2 and Governors

1. Edition

En

Testoil-ISO 41

PE 8 MW 100/720 LS 1117 RQ 300/1150 MW 53 0 403 548 006 1-8-7-2-6-5-4-3 0-45-90-135-180-225-270-315 supersedes = **KHD** company BF 8 L 413 FST engine 206 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings

Port closing at prestroke

(3.05-3.25)

mm (from BDC)

RW-9-12 mm

		(4,00 0,00)				
Rotational speed rev/min	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
800	13,3+0,1	12,3-12,5	0,35(0,6)			
300	7,5-7,6	1,1-1,5	0,35(0,55)		
1150	12,3+0,1		0,5 (0,7)		
400	12,4+0,1	·				
	<u> </u>	L				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

i .	Checking of stider Full-load speed of Setting point			•	cifications (4)	Idle speed regulation Setting point Test specifications (5)				Torque d	control (3)
rev/min	Control rod travel mm 2	rev/min 3	Control rod travel mm 4	Control red travel rnm 5	rev/min	rev/min 7		rev/min 9	Control rod travel mm	rev/min	Control rod Control rod
	19,2-20,8	_ 600	20,0	11,3 4,0	1195-1210 1230-1260		7,5	100 300	min.9,1 7,5-7,6	1150 800 650	12,3-12,4 13,0-13,3 13,3-13,4

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F)		Control rod stop [3a] Fuel delivery characteristics		ery characteristics 3b	Starting fuel delivery Idle speed Control		
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min	rad travel cm ³ /1000 strokes / mm 7	
LDA 800	0,8 bar 123,5-125,5 (121,5-127,5)		LDA 1150 LDA 400	0,8 bar 118,0-120,0 (115,5-122,5) 0 bar 96,0-98,0 (93,5-100,5)	100 300 100- 230	140,0-150,0 (137,0-153,0) 11,0-15,0 (8,5-17,5) (80-250)	

Checking values in brackets

-2-

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

KHD 12,7 t 2

Pump/governor	Setting	Measurement	diminution Control rod travel- difference		
	Gauge pressure b	ar Gauge pressure = bar	mm (1) .		
LS 1117 with MW 53	0,8	0,19 0,13 0	13,3 - 13,4 13,0 - 13,1 12,6 - 12,7 12,4 - 12,5		

Notes

(1) when n =

rev/min and gauge pressure -

bar (* maximum full-load control rod travel)

Testoil-ISO 4113

En

Test Specifications Fuel Injection Pumps ② and Governors

40

WPP 001/4 KHD 13,4 d 1. Edition

En

Testoil-iSO 4113

PE 8 MW 100/720 LS 1117 RQ 300/1075 MW 53-1 0 403 548 008 supersedes_

company KHD

engine BF 8 L 513 T

177 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(3.05-3.25)

mm (from BDC)

RW 9,0-12,0 mm

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
600	13,2+0,1	12,3-12,5	0,35(0,6)			
300 1075 400	6,7-6,8 11,2+0,1	1	0,35(0,55 0,5 (0,7)	!		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	g of slider	Full-load : Setting po	•	-	cifications (4)	Idle speed regulation Setting point Test specifications 5			cifications (5)	Torque control (3)		
rev/min	Control rod travel mm 2	rev/min	Control red travel mm	Control rad travel rnm 5	rev/min	rev/min 7	Control red travel rmm 8	rev/min 9	Control rod	rev/min	Control rod Utravel	
550	19,2-20,8	550	20,0	10,2 4,0	1120-1135 1155-1185		6,7	100 300	min. 8,3 6,7-6,8	640	13,2-13,3 13,2-13,3 11,2-11,3	
1250	0 - 1,0										11,2-11,3	

Torque-control travel on flyweight assembly dimension a =

mn

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever 2	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting t	uel delivery d Control
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes 5	rev/min 6	control rad travel cm ³ /1000 strokes:/ mm
LDA 600	0,8 bar 123,5-125,5 (121,5-127,5)		LDA 1075	0,8 bar 114,0-116,0 (111,5-118,5)	100	140,0-150,0 (137,0-153,0)
			LDA 400	0 bar 96,0-98,0 (93,5-100,5)	300 100- 230	16,0-20,0 (13,5-22,5) (80-250)

Checking values in brackets

10.84

BOSCH

Test at n =

500

rev/min decreasing pressure – in bar gauge pressure

KHD 13,4 d

Pump/governor	Setting	Measurement	Control rod travel
	Gauge pressure - ba	Gauge pressure = bar	difference mm (1)
LS 1117 with MW 53-1	0,8	0,25	13,2 - 13,3 13,1 - 13,2 11,4 - 11,6

Notes

(1) when n =

rev/min and gauge pressure -

bar (= maximum full-load control rod travel)

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MAN 20,9 r 1. Edition

engine D 2542 ME

<u>En</u>

PE12P 100 A 520/4 LS 823

RQV 250-1200 PA 668-3

supersedes company MAN

Komb.-Nr. 0 401 840 093

1 - 5-9- 8 - 3 -4 -11 - 10 - 2 - 6 - 7 - 12

 $0-15-60-75-120-135-180-195-240-255-300-315^{\circ}$ ($^{+}_{0}$, 75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 3,1-3,2 mm (from BDC) Zy1.12; RW = 9,0-12,0 mm

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1200	13,8+0,	1 10,8-11,0	0,35(0,6		·	
250	10,4+0,	1 1,9-2,5	0,35(0,5)		
	1			<u> </u>		
					<u> </u>	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

peed		Intermediate	e rated sp	eed	Lower rated	speed	•	Sliding sleeve t			
rev/min Control rod travel	mm C	of control		Control rod travel	Degree of deflection of control		Control rod travel		0		
mm	rev/min (2	lever	rev/min	mm (4)	lever	rev/min	mm (3)	rev/min	നന		
2	3	4	5	6	7	8	9	10	11		
1240	15,2-17	,8 -	-	-	ca.18	100	min.12,0	250	1,2-1,3		
		†				250	10,4-10,	6 450	2,8-3,2		
12,8			i					950	6.0-6.2		
4,0	1305-135	5	1					1200	8,1		
1500	0 - 1	.0			290-395	•			,		
			ł		(3e)						
	rev/min Control rod travel mm 2 1240 12,8 4,0	Control rod (a rowel row	Control fravel mm rev/min 2 1240 15,2-17,8 - 12,8 1240-1250 4,0 1305-1355	Tev/min Control rod (a) Degree of deflection of control rev/min 2	Control rod travel mm Control rod travel mm Control rod travel mm Control rev/min Control rev/min Control rev/min Control rev/min Control rev/min Control rev/min Control rev/min Control rod travel Control rod rod rod rod rod rod rod rod rod rod	rev/min Control rod travel mm rev/min 2 3 Degree of deflection of control lever 7 7 Ca.18 12.8 1240-1250 4,0 1305-1355	rev/min Control rod travel mm rev/min 2 3	Control rod travel mm Control rod rod rod rod rod rod rod rod rod rod	Control rev/min Control rod Travel mm rev/min 2 3 Degree of deflection of control rev/min 2 3 Control rod travel mm 4 Fev/min 5 Control rod deflection of control lever rev/min 7 Rev/min 8 9 10 Tev/min 10 Tev/min 10 Tev/min 10 Tev/min 10 Tev/min		

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2		Rotational-speed 20 limitation intermediate speed	Fuel deliv	ery characteristics 5a peed 5b	Starting Idle switchir		Torque-control 5 travel Control rod		
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm	
1	2	3	4	5	6	7	8	9	
1200	108,0-110,0 (106,0-112,0		-	-	- 250	- 19,0-25,0 (16,5-27,5)	ı	-	

Checking values in brackets

* 1 mm less control rod travel than col. 2

C24

BOSCH

①

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 MAN 11,1 q 1 5. Edition

En.

PES 6 P 110 A 720 LS 375

RQV 250-1100 PA 373 DR

supersedes 5.84

Komb.-Nr. 0 402 046 180

company: MAN

engine: D 2566 MTF

206 kW (280 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

3,0 - 3,1 Port closing at prestroke (2,95-3,15)

mm (from BDC) Zyl. 6: RW = 9.0 - 12.0 mm

				<u> </u>		<u>V. 1001</u>
Rutational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	2,4+0,1	14,6-14,9	0,4(0,75)			
250	7,3-7,5	1,0-1,5	0,45(0,75)		
		I .	1		f	l .

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed			Intermediate	rated sp	eed		Lower rated	speed		Stiding	Sliding sleeve travel	
Degree of deflection of control lever	rev/min Control rod travel mm 2	mm .		Degree of deflection of control lever	rev/min 5	Contro travei mm	ol rod	Degree of deflection of control lever	rev/min	Control rod travel mm 3 9		mm	
max.	1140	15,2-17,	,8		-		-	ca. 13	100	min.8,9	325	1,7-2,2	
ca.65	11,4 4,0	1140-115 1225-125							250 520-	7,3-7,5 580=2,0	900 1100	6,2-6,4 8,0-8,2	
	','	1233 123						390-510					
								3a)				_	

Torque control travel a = 0,9 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed (2b) timitation intermediate speed	Fuel deli high idle :	very characteristics 5a speed 5b	Starting Idle switching		Torque- travel	Control rod
rev/min	cm³/1000 strokes	rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
LDA 1100	0,7 bar 146,0-149,0 (143,5-151,5		LDA 500	0,2 bar 123,0-127,0 (120,0-130,0)		225,0-245,0 (221,0-249,0)	700	13,3+0,
LDA 700	0,7 bar 157,0-161,0 (154,0-164,0		LDA 500	0 bar 110,0-113,0 (107,5-115,5)	250	10,0-15,0 (7,5-17,5)		12,5+0,

Checking values in brackets

* 1 mm less control rod travel than col. 2

MAN 11,1 q 1 - 2 -

Test at n -

500 rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travet difference
mm tomas and all and and an an an an an an an an an an an an an	Gauge pressure - bar	Gauge pressure - bar	mm (1)
PES 6 PLS 375 + RQVPA 373 DR	. 0,70	0 0,20 0,32	13,3-13,4 11,3-11,4 11,8-11,9 12,6-12,8

Notes

(1) when n =

rev/min and gauge pressure =

bar (maximum full-load control rod travel)

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Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MB 19,1 h1

1. Edition

PE 12 P 100 A 320 LS 826

RQV 350-1250 PA 251 R

supersedes

Komb.-Nr. 0 401 840 038

company:Daimler-Benz engine OM 404 ECE

1-5-9-8-3-4-11-10-2-6-7-120-15-60-75-120-135-180-195-240-255-300-315 $\stackrel{+}{\underline{}}0,5$ ° ($\stackrel{+}{\underline{}}0,75$ °)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

3,2.3,3 mm (from BDC) Zvl. Port closing at prestroke (3<u>.15-3.35</u>) Spring pre-tensioning (torque-control valve) Rotational speed Control rod **Fuel delivery** Difference Control rod **Fuel delivery** cm³/ cm3/100 strokes 100 strokes cm³/100 strokes rev/min mm mm mm 1230 12,0+0,1 0,3(0,6)10,5-10,7 7,6-7,8 1,0-1.5 350 9,4(0,7)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed			Intermediate	rated sp	eed		Lower rated	speed	Lower rated speed			
Degree of deflection of control	rev/min Control rod travel	(rave)		Degree of deflection of control		Control rod	_ :	Degree of deflection of control		Control rod travel	'		leeve travel
lever	mm	rev/min (2 a)	lever	rev/min	mm (4)	lever	rev/min	mm (3)	rev/min	mm
1	2	3		4	5	6		7	8	9		10	11
ca.68	1250	15,2-17	', 8	-	-	-		ca.16	100	min.9,	3	300	0,4-1,4
 ca.66	11,0	1280-129							350	7,6-7,8			2,6-3,6 4,5-5,0
:	4,8 1500	1355-138 0-1,0	35					350 - 550			1	250	7,8
L								3a					

Torque control travel a =

mm

C. Settings for Fue! Injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F) 2		Rotational-speed 2b limitation intermediate speed	Fuel delic high idle s		Starting Idle switchli		Torque- travei	control 5 Control rod	
rev/min	cm³/1000 strokes	rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm	
1	2	3	4	5	6	7	8	9	
1230	105,0-107,0 (103,0-109,0)	1280-1290*	1230	77,0-79,0 (74,5-81,5)	100	110,0-130,0 106,0-134,0)	-	-	
		·		**					

Checking values in brackets

* 1 mm less control rod travel than col. 2

** Set at the reduced-delivery stop.

9.84

BOSCH

①

Testol-150 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MB 19,1 h
3. Edition

En.

PE12P100A320 LS 826

ROV 350-1250 PA 378 R

supersedes 1.81

Komb.-Nr. 0 401 840 042

company Daimler-Benz OM 404 ECE 316 kW

1 5 0 0 2 1 14

1-5-9-8-3-4-11-10-2-6-7-12 0-15-60-75-120-135-180-195-240-255-300-315° -0.5° (-0.75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

3,2-3,3 (3 15-3 35) mm (from BDC) Zy1. 12

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1230	12,0+0,1	10,7-10,9	0,3(0,6)			
350	8,3-8,5	0,9-1,4	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed			Intermediate	rated spi	eed	Lower rated	speed		Cliding	liceve travel
Degree of deflection of control lever		travel "	(a) (3e)	deffection of control	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	fev/min	, ①
ca.68	1250	15,2-17	,8	-	-	_	ca.16	100	min.10,0	300	0,9-1,1
ca.66	11,0 4,8 1500	1280-12 1355-13 0 - 1,0	85				400-700	350	8,3-8,5		3,6-3,9 5,3-5,6 8,3
							3a				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

l l	d stop np. 40°C (104°F) 2	initation intermediate speed	high idle s		Starting Idle switchin	\mathbf{O}	Torque- travel	Control cod
rev/min	cm ³ /1000 strokes	rev/min	tev/win	cm ³ /\$000 strokes	rev/min	cm ³ /1000 strokes	rev/min	ww
1	2	3	4	5	6	7	8	9
1230	107,0-109,0 (105,0-111,0		1230	78,0-80,0 (76,0-82,0) **	100	120,0=140,0 (116,0-144,0)	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

** Set at the reduced-delivery stop.

9.84

BOSCH

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MAN 20,9 a 2

1. Edition

PE 12 P 100 A 520/4 LS 834

ROV 250-750 PA 668-1

supersedes companMAN

Komb.-Nr. 0 401 840 091

engine: D 2542 185 kW

1- 5- 9- 8- 3 - 4 - 1!- 10- 2 - 6 - 7 - 12 0-15-60-75-120-135-180-195-240-255-300-315° $\stackrel{+}{=}$ 0,5° ($\stackrel{+}{=}$ 0,75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings

Port closing at pres	stroke	$\frac{(3.05-3.25)}{\text{mm (from BDC) Zy1. 12; RW} = 9.0-12.0 \text{ mm}}$							
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6			
750	12,1+0,1	8,3-8,5	0,35(0,6)		•				
250	6,4-6,6	1,3-1,9	0,35(0,55)					
		i		<u> </u>	1				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp	sed	Lower rated	speed		Sliding sleeve travel	
deflection of control	rev/min Control rod travel mm 2	Travei 🔾	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min 8	Control rod travel mm 3	rev/min	l ①
max.	870	15,2-17,8	-	-	-	ca. 11	100	min.8,0	250	1,2-1,3
ca. 58	11,2 4,0 1000	1190-1200 850-880 0-1,0				200 205	250	6,4-6,6	600 750	4,3-4,7 6,5
	1000	0-1,0				290-395 ③				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Ilmitation intermediate speed				fuel delivery 6	Torque-control 5 travel Control ro	
rev/min	cm³/1000 strokes	rev/min (4a)	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
750	83,0-85,0 (81,0-87,0)	1190-1200*	-	- ::	-	e	•	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

10.84

BOSCI

Test Specifications ① Fuel Injection Pumps 1 WPP 001/4 MAN 20,9 m 2 and Governors

1. Edition

E	Ī	1	

PF 12 P 120 A 520 LS 836-1 ROV 250-1150 PA 668

1 - 5 - 9 - 8 - 3 - 4 - 11 - 10 - 2 - 6 - 7 - 12 0 - 15-60-75-120-135-180-195-240-255-300-315°+0,5°(+0,75°) engine

D 2542 MLE

Values only apply to test nozzle-and-holder

478 kW

assembly 1 688 901 019 and fuel-injection test

tubing 1 680 750 067
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	10,3+0,	17,5 - 17,7	0,5(0,9)			
250	6,0-6,	2,1 - 2,7	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed			Intermediate	rated sp	eed	Lower rated	*peed		E11:01===	toous tooust
deflection	rev/min Control rod travel	Control rod travel	(18)	Degree of deflection of control		Control red travel	Degree of deflection of control		Control rod travel	Shoring s	leeve travel
lever	mm	rev/min	(28)	lever	rev/min	mm (4)	lever	rev/min	mm (3)	rev/min	mm
1	2	3		4	5	6	7	8	9	10	11
max.	1175	15,2-1	7,8	-	-	-	ca. 11	100	min. 7,6	250	1,2-1,3
ca. 64	9,3	1190-1	200				}	250	6,0-6,2	550	3,5-4,0
	4,0		295		,						6,6-6,8
	1400	0 -	1,0			}	290-395			1150	8,3
							}			i	
							3a)				

Torque control travel a =

C. Settings for Fuei Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed (2b) firmitation intermediate speed	Fuel delic high idle s	very characteristics (5a)	Starting Idle switching	\mathbf{O}	Torque- travel	control 5
rev/min	cm³/1000 strokes	rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
Ľ	2	3	4	5	6	17	8	9
1150	175,0-177,0 (172,0-180,0		1	-	100	190.0-210,0 (186,0-214,0		•

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps (1)-P 001/4 MAN 20,9 m 3 and Governors

1. Edition

PE 12 P 120 A 520 LS 836- RQV 250-1150 PA 670 1 - 5 - 9 - 8 - 3 - 4 - 31- 10- 2 - 6 - 7 - 12

supersedes_

0 - 15- 60- 75-120-135-180-195-240-255-300-315°+0,5°(+0,75°) D 2542 MLE

company: MAN

Values only apply to test nozzle-and-holder

assembly 1 688 901 019 and fuel-injection test

456 kW

tubing 1 680 750 967

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

(1) 2723

①

3,0 - 3,1 2,95-3,15) Port closing at prestroke mm (from BDC)

١	Rotational speed rev/min 1	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
	1150	10,9+0,1	18,5 - 18,9	0,5(0,9)		·	
	250	6,5-6,7	2,2 - 2,8	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in ____

B. Governor Settings

Upper rated s	peed			Intermediate	rated sp	eed	Lower rated	speed		Stiding	leeve travel
deflection of control	rev/min Control rod travel mm 2	Control rod travel mm rev/min	(a) (2a)	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min 8	Control rod travel mm 3		(1) mm
max.	1170	15,2-17	,8	-	-	-	ca. 11		min. 8,1	i	1,2-1,3
ca. 64		1190-12 1270-13 0 - 1					290-395 ③	250	6,5-6,7		3,5-4,0 6,6-6,8 8,3

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		Rotational-speed 2b timitation intermediate speed	Fuel deli- high idle s		Starting Idle switching	fuel delivery 6	Torque- travel	control (5)
rev/min	cm ³ /1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	88	9
LDA 1150	0,7 bar 185,0-189,((182,0-192,(LDA 1150	0 bar 161,0-165,0 (158,0-168,0		200,0-220, (196,0-224,		-

Checking values in brackets

1 mm less control rod travel than col. 2

MAN 20,9 m 3 -

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

		,	
Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 12 PLS 836-1 + RQVPA 670	0,70	0 0,22 0,15	10,9 - 11,0 9,8 - 9,9 10,5 - 10,6 10,0 - 10,2

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-foad control rod travel)

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MAN 20.9 d 1

1. Edition

PE 12 P 110 A 520 LS 839

ROV 250-1150 PA 670

supersedes-

Komb.-Nr. 0 401 840 095

company: MAN

1- 5- 9- 8- 3 - 4 - 11- 10- 2 - 6 - 7 - 12

D 2542 MTE

 $0-15-60-75-120-135-180-195-240-255-300-315° \pm 0,5° (\pm 0,75°)$

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke	(2.95-3.15)	mm (from BDC)	Zv1. 12	: RW = 9.0-12.	0 mm
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	12,3+0,1	14,2-14,5	0,4(0,75)			
250	6,8-7,0	1,4-1,9	0,45(0,75)		
L					I	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	speed	•	Intermediat	e rated sp	eed	Lower rated	speed		Cliding	de eve trevel
deflection	rev/min Controi rodtravel mm	Control rod (16 trave) mm rev/min (26	of control	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	
•	2	3	 	5	6	7	8	9	10	11
max.	1170	15,2-17,8	-	-	-	ca. 12		min.8,4	250	1,2-1,3
ca. 65	11,3 4,0 1450						250	6,8-7,0		3,5-4,0 6,6-6,9 8,3
		i				3 a				

Torque control travel a

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		limitation intermediate appead	high idle s	very characteristics (5a)	Starting Idle switching		Torque- travel	control 5
rev/min	cm³/1000 strokes	rev/min 49	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
LDA 1150	0,7 bar 142,0-145,0 (139,5-147,5)	1190-1200*	LDA 500	0 bar 98,0-101,0 (95,5-103,5)	100	150,0-170,0 (146,0-174,0		-

Checking values in brackets

* 1 mm less control rod travel than col. 2

MAN 20,9 d 1

Test at n =

rev/min decreasing pressure – in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 12 PLS 839 +RQVPA 670	0,70	0 0,28 0,18	12,3-12,4 10,5-10,6 11,8-11,9 10,9-11,1

(1) when n =

rev/min and gauge pressure = _

bar (= maximum full-load control rod travel)

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Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 VOL 10,0 q 3 1. Edition

En

PE 6 P 110 A 320 RS 3108 Komb.-Nr. 0 401 846 781

RQV 325-1100 PA 232-1

supersedes

company: Volvo-BM

3

engine: EM/TD 100 G

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

rev/min mm 1 2	İ	cm³/100 strokes	cm³/ 100 strokes	i	I .	
	1	3	4	mm 2	cm ³ /100 strokes 3	mm 6
700 11,	5+0,1	14,7-14,9	0,4(0,8)		•	2,5 [±] 0,1
325 4,	0-4,2	1,7-2,1	0,3(0,6)			(2,2-2,9)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed	•	Intermediate	rated sp	eed	Lower rated	speed	•	Slidina s	leeve travel
Degree of deflection	rev/min Control	Control rod (a) travel	Degree of deflection		Control rod travel	Degree of deflection of control		Control rod travel		0
of control lever	rod travel	rev/min (2a)	of control lever	rev/min	mm (4)	lever	rev/min	mm ③	rev/min	mm
1	2	3	4	5	6	7	8	9	10	11
max.	1150	15,2-17,8	-	-	-	ca. 13	100 325	min.5,5 4,0-4,2		1,5-1,6
ca. 46	10,5 4,0 1350	1140-1150 1210-1240 0 - 1,0						400 = 2.0		3,5-4,1 5,4-5,6 8,0
						3				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

	d stop np. 40°C (104°F) 2	limitation intermediate speed	high idle s		idie switchir	ng point	travel	Control cod
rev/min	cm ³ /1000 strokes	rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	
1	2	3	4	5	6	7	8	9
LDA 700	0,9 bar 147,0-149,⊅ (144,0-152,0)		LDA 700	0 bar 100,0-102,0 (97,0-105,D)	100	170,0-200,0 =20,0-21,0 mm RW	1	-

Checking values in brackets

* 1 mm less control rod travel than col. 2



Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

VOL 10,0 q 3 - 2 -

300		-	
Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 6 PRS 3108 + RQVPA 232-1	0,90	0 0,53 0,37	11,5-11,6 9,1-9,2 10,9-11,0 9,6-9,8
	}		

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps (1) PP 001/4 BAO 31,8 b and Governors

ROV 350-900 PA 618 PF 12 P 130 A 120 RS 3127 1-12-9-4-5-8-11-2-3-10-7 -6 $0-45-60-105-120-165-180-225-240-285-300-345^{\circ} \pm 0.5^{\circ} (\pm 0.75^{\circ})$ Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test

supersedes compaBaudouin engine 12 P 15-2 AN-SR

Kom.-Nr. 0 401 830 708

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

tubing 1 680 750 067

rev/min mm 2 2 900 12,2+0,1	cm ³ /100 strokes 3	cm ³ / 100 strokes	mm	cm ³ /100 strokes	mm
900 12.2+0.1			2	3	6
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	30.9-31,2	0,6 (1,0)			
350 4.8-5.0	2.0-2.6	1.6 (1,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	speed		Intermediate	rated sp	eed	Lower rated	speed	•	Sliding s	leeve travel
	rev/min Control rod travel mm 2	Control rod travel mm rev/min 28	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min 8	Control rod travel mm 3	rev/min 10	ı ①
max.	940	15.2-17.8	-	-	-	ca. 30			325 500	1,1-1,3 3,1-3,8
ca. 62	11.2 4.0 1150	940-950 1005-1035 0 - 1.0				350-450		,,,,		5,0-6,4 8,0
						3a				

Torque control travel a

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		limitation intermediate speed	high idle	very characteristics 58 speed 50	Starting Idle switching	. •	Torque- travel	Control 5 Control rod
rev/min	cm³/1000 strokes	rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	
1	2	3	4	5	6	7	8	9
900	309.0-312.0 (304.0-316.0)	940-950 *	-	-		-	-	-

Chacking values in brackets

* 1 mm less control rod travel than col. 2 11.84



Test Specifications Fuel Injection Pumps (1A) and Governors

WPP 001/4 SCA 14,2 c

4. Edition

PE 8 P 120 A 920/4 LS 7002 RSV 350-1100 P 1/484 1 - 2 - 7 - 3 - 4 - 5 - 6 - 8 je $45^{\circ} \pm 0.5^{\circ} (\pm 0.75^{\circ})$

supersedes 10.83 company Saab-Scania DS 14 40, 42

Values only applx to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015 Komb.-Nr. 0 402 678 800 All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

DSI 14 40, 41

See page 2 !

A. Fuel Injection Pump Settings

from FD 141:

5,0 - 5,1Port closing at prestroke (4,95-5,15)

to FD 052: 4,4 - 4,5 mm (from BDC) (4,35-4,55)

Rotational speed	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm³/100 strokes 3	cm³/ 100 strokes 4	mm 2	cm³/100 strokes	mm 6
700	13,2+0,1	18,7 - 18,9	0,6(0,9)			3,3 ± 0,1
350	4,4-4,6	1,4 - 1,8	0,3(0,6)			(3,0 - 3,5)
				ļ		* *

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Intermed	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	1(3)	rque control Control rod travel mm
loose	800 x =	0,3-1,0 = 6,0	-	-	- -	ca.30		4.0 4,4-4,6	~	•
ca.66	12,2 4,0 1300	1090-1100 1170-1200 0,3 - 1,7					440-500	=2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(26) Fu	ill-load stop	6 Rotational- speed limitat	11361	uel delivery naracteristics	Starting	fuel delivery 5	4a) Id	e stop
Test oil te rev/min 1	emp 40°C (104°F) cm³/1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes	rev/min	Control root travel mm
700	187,0-189,0 (184,0-192,0)	1140-1150*	1000	183,0-191,0 (181,0-193,0)	100	240-290,0 =20,0-21, mm RW		

Checking values in brackets

* 1 mm less control rod travel than col 2

10.84

Geschaftsbereich KH. Kundendienst. Kf2-Ausrustung. c. 1980 by Robert Bosch. GmbH. Postfach 50. D-7000 Stuttgart. 1. Printed in the Federal Republic of Germany Imprime en République Federale d'Allemagne par Robert Bosch. GmbH.

SUPPLEMENTARY INFORMATION

- Checking and adjustment without a ROBO diaphragm
- For combination with letter index see VDT-I-400/116
- For sealing, see VDT-I-400/117
- Test specifications approved by Scania on Aug. 19, 1983
- Start of fuel delivery-engine: DS 14-18° before TDC; DSI 14-17° before TDC
- Firing sequence, engine : 1-5-4-2-6-3-7-8
- ** Due to smoothing of the sealing edge, the spring tension with a new delivery-valve holder must be adjusted 70 2,9 3,1 mm.

Test Specifications Fuel Injection Pumps 1)PP 001/4 SCA 14,2 g and Governors

1. Edition

PE 8 P 120 A 920/4 LS 7002

ROV 275-1000 PA 547-3

supersede5

1 - 2 - 7 - 3 - 4 - 5 - 6 - 8 je $45^{\circ}+0.5^{\circ}$ (+0.75°)

company Scania engine DS 1406

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015

LKW 142-Kran Komb.-Nr. 0 402 648 810

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

5,0 - 5,1 4 95-5 15) mm (from BDC) RW = 9.0 - 12.0 mmPort closing at prestroke

Rotational speed rev/min		Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	13,2+0,1	18,7 - 18,9	0,6(0,9)			$3,3 \pm 0,1$
275	4,4-4,6	1,0 - 1,4	0,3(0,6)			(3,0 - 3,5) * *

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated :	speed			Intermediate	rated sp	eed		Lower rated	speed		Stirtings	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm rev/min 3	(1a) (2a)	Degree of deflection of control lever	r e v/min 5	Control (travel mm 6	rod	Degree of deflection of control lever 7	rev/min	Control rod travel mm 3		mm
max. ca. 60	12,2	15,2-17, 1040-105 1190-122 0 - 1,	- 50 20	-	-	-	· · · · · ·	ca. 8	100 275 320-3	min.5,9 4,4-4,6 80 = 2,0	500	1,5-1,7 3,6-4,0 5,2-5,5 7,7

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten	distop	Rotational-speed 2b limitation intermediate speed	Fuel delin	very characteristics 5a	Starting Idle switchir	• •	Torque-control (stravel	
rev/min	cm ³ /1000 strokes	rev/min 48	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
LDA 800	0,9 bar 187,0-189,0 (184,0-192,0)	1040-1050*	LDA 1000 LDA 500	0,9 bar 183,0-191,0 (181,0-193,0 0 bar 137,0-141,0 (135,0-143,0		240,0-290,0 = 20,0-21,0 mm RW	•	-

Checking values in brackets

1 mm less control rod travel than col. 2

Testatn -

E O O

rev/min decreasing pressure – in bar gauge pressure

SCA 14,2 g

- 2 -

500	mereusg		
Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 8 PLS 7002 + RQVPA 547-3	0,90	0 0,35 0,23	13,2 - 13,3 11,3 - 11,4 12,8 - 12,9 11,9 - 12,1

Notes

(1) when n =

rev/min and gauge pressure =

bar (" maximum full-load control rod travel)

SCA 11,0 y 1

SUPPLEMENTARY INFORMATION

- Checking and adjustment without a ROBO diaphragm
- For combination with letter index see VDT-I-400/116
- For sealing, see VDT-I-400/117
- Test specifications approved by Scania on

2.11. 1983

- Start of fuel delivery-engine:

18° before TDC

- Firing sequence, engine

1-5-4-2-6-3-7-8

** Due to smoothing of the sealing edge, the spring tension with a new delivery-valve holder must be adjusted 70 2,9 - 3,1 mm.

00717000

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 SCA 11.0 v 3

1. Edition

PE 6 P 120 A 720 RS 7004

RQ 900 PA 528-2

supersedes ~

Saab-Scania

assembly 1 688 901 019 and fuel-injection test

DN 11 Komb.-Nr. 0 402 646 814

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 5,0-5,1 Port closing at prestroke (4,95-5,15)

Values only apply to test nozzle-and-holder

tubing 1 680 750 015

mm (from BDC)

		4,95-5,15)				
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ¹ / 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
850	10,6+0,1	16,2 - 16,4	0,6(0,9)			3,3 [±] 0,1 (3,0-3,5) **
* Due to sm new deliv	oothing ery-valv	of the sealing of holder must be	dge, the	spring to	nsion with a ,1 mm.	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	g of slider ck	①	Full-load : Setting po	•	•	cifications (4)	Idle spec	•		cifications (5)	Torque	control 3
rev/min 1	Control rod travel mm 2	·	rev/min	Control red travel mm	Control red travel mm	rev/min	rev/min	Control rod travel	rov/min 9	Control rod	rev/min	travel
_	-		-	-	9,6 4,0 1000	900-905 935-949 0-1,0	-	-	-	-	-	•
	ontrol travel								00-90	min-1		

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics (3b)	Starting t	
rev/min	cm³/-1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min	Control red travel cm ³ /1000 strokes/ mm
850	162,0-164,0 (159,0-167,0)	-	-	-	100	240,0-290,0 = 20,0-21,0 mm RW
			High	idle speed		
			Dispe	rsion: 4,0 (7,0)		

Checking values in brackets

Test Specifications Fuel Injection Pumps (1A) and Governors

WPP 001/4 MB 5,7 p 3. Edition

TES 6 A 80 D 410 RS 2085 Komb.-Nr. 0 400 876 211

RSV 350-1400 A 5 B 716 DL

supersedes 5.84 Daimler-Benz OM 352 93 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15-2,25 (2,10-2,30)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm1/100 strokes	cm // 100 strokes	mm	cm//100 strokes	mm
1	2	3	4	2 •	3	6
1400	8,3-8,4	5,7-5,8	0,2(0,35)			
350	5,4-5,6	0,9-1,5	0,3(0,5)			
		İ				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Interme	diate rated	speed 6	Control- lever deflection in degrees 7		rated speed Control rod travel mm 9	3 for	rque control Control red travel mm 11
loose	800 x =	0,3-1,0 6,0	-	-	-	lose	100	**	1400 500	8,3-8,4 9,1-9,2
ca. 70		1440-1450 1495-1515 0,7-1,7					100 350 500-560	min.19,0 5,4-5,6 = 2,0	1000	8,5-8,8
The numbers	denote the	Set sequence of the te		-speed	auxi	liary sp	ring at	2 mm cont	rol-ro	d travel.

C. Settings for Fuel Injection Pump with Fitted Governor

(B)	ult-load stop emp 40°C (104°F)	Rotational- speed limitat	11321	nel delivery aractenstics	Starting f	uel delivery 5	4a) ldl	e stop Control rod
rev/min 1	cm³/1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ¹ /1000 strok e s 5	rev/min	cm ¹ /1000 strokes 7	rev/min 8	travel mm 9
1400	56,5-57,5 (55,0-59,0)	1440-1450*	1000 800	54,0-56,0 (52,5-57,5) 52,5-54,5 (51,0-56,0)	100	78,0-88,0 (75,0-91,0		-

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps 2 WPP 001/4 F and Governors

WPP 001/4 RAB 9,7 a 3

PES 6 A 95 D 410 RS 2108 U Komb.-Nr. 0 400 846 247

RQ 200/1100 AB 647 L

supersedes company Raba

engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1.65-1.85)

mm (from BDC)

Rotational speed rev/min	Control rod travel	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
1100	11,0+0,1	10,7-10,9	h 25 (0 6	2	3	6
			D,35 (0,6			
200	5,9-6,1	0,9-1,6	0,35(0,55)		
						,
	<u> </u>	<u> </u>				,

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1	g of slider	Fuii ioadi	•	-		Idle spec	_			Torque o	$\overline{}$
PRG che rev/min 1	Control rod	Setting por rev/min 3	Control rad travel mm	Control red travel mm 5	rev/min	Setting prev/min	Control rod travel	rev/min	cifications (5) Control rod travel mm	rev/min	Control rod (3) travet mm
600	15,4-16,4	600	15,9	10,0 4,0	1145-1160 1185-1215		6,0	200	min. 7,5 5,9-6,1 85 = 2,0	_	-

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At 1145-1160 min⁻¹

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel deliv	· /2L\	Starting f	uel delivery
rev/min	cm ³ /-1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	nd travel cm ³ /1000 strokes:/ mm 7
1100	107,0-109,0 (135,0-111,0)	•	700	100,5-103,5 (98,0-106,0)	100	19,5-21,0 mm RW
			500	97,5-100,5 (95,0-103,0)	200	6,0 mm RW

Checking values in brackets

11.84

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40

WPP 001/4 MB 8,7i

5. Edition

En

Festoil-ISO 4113

PE 6 A 90 D 410 RS 2124 Komb.-Nr. O 400 676 117 RSV 700-1150 A 1 B 665 L

A 1 C 665 L

superseds 80 compan Daimler-Benz engine OM 360

125 kW (170 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (2,10-2,30) 2,15-2,25

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm ¹ /100 strokes	cm·/ 100 strokes	mm 2	cm1/100 strakes	mm 6
1150	10,6-10,7	8,8 - 8,9	0,3(0,45)	<u> </u>		
700	5,6-5,8	1,8 - 2,4	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	r rated speed		Intermediate rated speed			(4)	Lower rated speed			3 Torque control		
Degree of deflection of control	Control rod travel	Control rod travel mm rev/min				Control- lever	İ	Control rod travel		Control rod travel		
lever 1	2	3	4	5	6	deflection in degrees 7	rev/min B	9 9	rev/min	11		
loose	900	0,3-1,0	-	-	-	ca.31	700	5,2	-	-		
							700	5,1-5,3	ļ			
ca.53	4,0	1160 – 1165 1184 – 120 1					690-75					
	1250	0,3-1,7					l					

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop emp_40°C (104°F)	Rotational- speed limitat		Fuel delivery characteristics		Starting fuel delivery 5		4a Idle stop	
rev/min	cm ¹ /1000 strokes	Note changed to) rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min 6	cm ¹ /1000 strokes 7	rev/min 8	Control rod travel mm	
1150	87,5 - 88,5 (85,5 - 90,5)	1160-1165*	-	-	-	-	•	•	
				i ,					

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test in S.

Test Specifications Fuei Injection Pumps 2 and Governors

WPP 001/4 MB 8.7 c 3 2. Edition

PE 6 A 90 D 410 RS 2124 X Komb.-Nr. 0 400 646 151

RQ 300/1275 AB 658 DL

supersed&.82 companyDaimler-Benz engine OM 360 125 kW (170 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke mm (from BDC)

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm³/100 strokes 3	cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1250	9,3-9,4	7,7 - 7,8	0,3(0,45)			
.300	6,1-6,3	0,9 - 1,5	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	g of slider ck (1)	Full-load Setting p	•	-	cifications (4)	Idle spe	ed regula point		cifications (5)	Torque	control 3
rev/min 1	Control rod travel mm	rev/min 3	Control red travel mm 4	Central red travel mm 5	rev/min 6	rev/min 7	Control red travel mm 8	rev/min 9	Control rod travel mm	rev/min	travel
700	15,6-16,4	700	16,0	8,3 4,0	1295-1310 1345-1375	300		300 350 - 3	min. 6,5 4,9-5,1 90 = 2,0 max. 1,0	1250 500 850 1040	9,3-9,4 10,1-10,2 9,8-10,0 9,4-9,7

Torque-control travel on flyweight assembly dimension a = 0,4

1295-1310 min⁻¹

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	3 b	Starting I	ruel delivery
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5		rey/min 6	cm ³ /1000 strokes:/ mm
1250	77,0-78,0 (75,0-80,0)	450	500 800	69,0-72,0 (67,0-74,0) 77,0-80,0 (75,0-82,0)		100	15,3-21,0 mm RW

Checking values in brackets

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 5,7 i 4

1. Edition

PES 6 A 80 C 410 RS 2194 X

RQV 300-1425 AB 615 D

supersedes compa@aimler-Benz engine OM 352 66 kW (90 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings
2,15-2,25
(2,10-2,30) mm mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	9	3,9-4,3	0,3			
ı	6	1,2-2,0				
200	9	1,8-2,6				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	e rated sp	eed	Lower rated	speed		Sliging	leeve trava!
Degree of deflection of control lever	Control rod travel	mm C	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min B	Control rod travel mm 3	rev/min	0
ca. 66	1425 1550 1650 1700 1790	16,0-19,4 8,2-13,4 1,4-8,0 0-5,2 0	-	-	-	ca. 10	200 400 480 600 770	6,0-7,4 3,5-5,2 2,7-3,8 1,4-2,8	640	0,9-1,1 3,3-3,7 6,0-6,2 8,7
			<u> </u>			39				

Torque control travel a = 1,7 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		limitation intermediate speed	Fuel deli- high idle s	rery characteristics (5a)	idle	fuel delivery 8	Torque travel	Control rod
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
1400	38,5-40,5 (39,5-41,5)	1505-1515*	1000 800 500	35,5-38,5 36,0-39,0 37,7-41,2	100	72,5-82,5	1425 600	0 1,6-1,8

Chucking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MB 5,7 i

3. Edition

PES 6 A 80 C 410 RS 2194 Y

RQV 300-1475 AB 621 D

supersedf0.78 companDaimler-Benz engine OM 352 81 kW (110 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15-2,25 mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	(2,10-2,30) Fuel delivery cm³/100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (forque-control valve)
1000	9	4,4 - 4,8	0,3			
	6	1,8 - 2,6				
200	9	2,4 - 3,4				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	e rated sp	eed	Lower rated	speed		Stiding	leeve travel
deflection	rev/min Control rod travel mm 2	Control rod ta travel mm rev/min 28	of control	rev/min 5	Control rod travel mm 4	Degree of deflection of control fever 7	rev/min 8	Control rod travel mm 3	rev/min	1
ca. 66	1475 1600 1700 1800 1850	16,0-19,0 8,5-13,5 1,6-8,5 0 - 3,0 0	-	-	-	ca.10	100 300 500 600 770	6,7-8,0 4,8-6,5 2,5-3,7 1,3-2,7		0,8-1,1 3,8-4,0 5,7-5,9 8,9
						(3a)				

Torque control travel a = 1,2 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roo Test oil ten		Rotational-speed 2b limitation intermediate speed	Fuel deliv	very characteristics 5a	Starting idle switchir		Torque- travel	Control cod	
rev/min 1	cm³/1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm	
1450	45,5-47,5 (44,5-48,5)	1505-1515*	1000 800 500	45,5-48,5 45,0-48,0 41,0-44,5	100	72,5-82,5	1475 600	0 1,1-1,3	

Checking values in brackets

* 1 mm less control rod traver than col. 2

10.84

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Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MB 5,7 i 1 1. Edition

Ξn

PES 6 A 80 C 410 RS 2194 Y

RQV 300-1475 AB 622 D

supersedes

companDaimler-Benz engine OM 352 81 kW (110 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,15-2,25

Port closing at pres	stroke	(2.10-2.30)	mm (from BDC	mm (from BDC)								
Roletional speed revimin	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6						
1000	9	4,4-4,8	0,3									
	6	1,8-2,5										
200	9	2,4-3,4										

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed			Intermediate	rated sp	eed		Lower rated	speed		Sliding	sleuve travel
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min 3	(a) (28)	Degree of deflection of control lever 4	rev/min 5	Control ro travel mm 6	d 4	Degree of deflection of control lever 7	rev/min 8	Control rod travel mm	3) rev/min	1 ①
ca.66	1475 1600 1700 1800 1850	16,0-19 8,5-13 1,6-8,9 0 - 3,0	5	-	-	-		ca. 10	300	6,7-8,0 4,8-6,5 2,5-3,7 1,3-2,7	660	0,8-1,1 3,8-4,0 5,7-5,9 8,9

Torque control travel a = 1,2 mm

C. Settings for Fuei injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed	Fuel delic	very characteristics (5a)	Starting fuel delivery (6) Idle switching point		Torque- travel	control 5
rəv/min 1	cm³/1000 strakes	rev/min 4a	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	travel mm 9
1450	45,5-47,5 (44,5-48,5)	1505-1515*	1000 800 500	45,5-48,5 45,0-48,0 41,0-44,5	100	72,5-82,5	14 75 600	0 1,1-1,

Checking values in brackets

* 1 mm less control rod travel than col. 2

10.84

BOSCH

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①

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 5,7 i 2 1. Edition

PES 6 A 80 C 410 RS 2194 Z RQV 300-1475 AB 626 D

companDaimler-Benz engine OM 352 74 kW (100 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	itroke	2,15-2,25	mm (from BDC	mm (from BDC)									
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6							
1000	9	4,4-4,8	0,3										
	6	1,8-2,6				·							
200	9	2,4-3,4											

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated speed Degree of deflection of control lever rod trave	Control rod te travel mm rev/min 28	Intermediate Degree of deflection of control lever	rated sp rev/min 5	Control rod travel mm 4	Lower rated Degree of deflection of control lever 7	speed rev/min 8	Control rod travel mm 3	Sliding s	mm
ca. 66 1475 1600 1700 1800 1850	16,0-19,0 8,5-13,5 1,6-8,5 0 - 3,0 0	-	-	-	ca. 10	100 300 500 600 770	4,8-6,5 2,5-3,7	250 660 1070 1475	0,8-1,1 3,8-4,0 5,7-5,9 8,9

Torque control travel a = 1,2

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		Rotational-speed 2b limitation intermediate speed	Fuel delin	very characteristics (5e)	Starting fuel delivery 6 Idle switching point rev/min cm³/1000 strokes 6 7		Torque-control (travel		
rev/min	cm³/1000 strokes	rev/min 49	rev/min	cm ³ /1000 strokes			rev/min 8	travel mm	
1450	41,0-43,0 (40,0-44,0)	1505-1515 *	1000 800 500	38,5-41,5 39,5-42,5 36,0-39,5	100	72,5-82,5	1475 600	0 1,1-1,3	

Checking values in brackets

* 1 mm less control rod travel than col. 2

2

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ② and Governors

WPP 001/4 0MB 4,4 c 1 2. Edition

PES 4 A 90 D 410 RS 2195

250/1200 AB 849 L

supersede .83

company: OM Brescia

engine. CO 3 D

Komb.-Nr. 0 400 844 057

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
1200	10,9+0,1	8,0 - 8,1	0,3(0,45)			
250	7,4-7,6	0,9 - 1,5	0,2(0,4)			
				Ì		
	1					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	(1)	Full-load s Setting po	int	Test spec	cifications (4)	1 '	Idle speed regulation Setting point Test specifications (5)					
rev/min	Control rod travel mm	rev/min 3	Control red travel rnm 4	Control red travel rnm 5	rev/min	revimin 7	Control rod travel mm 8	rev/min 9	Control rod travel mm	rev/min	Control rod travel mm 12	
700 VH=n	15,6-16,3 ax. 46°	700	16,0		1245-1260 1335-1365	250	7,5	100 250 470-	min.8,9 7,4-7,6 510= 2,0		10,9-11 10,9-11	

Torque-control travel on flyweight assembly dimension a =

1245-1260 min Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp. 40°C (104°F)		Control rod stop Gain Fuel delivery characteristics				Starting fuel delivery Idle speed		
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5		rev/min 6	Confrair red travel cm ³ /1000 strokes:/ mm 7	
1200	79,5-80,5 (77,5-82,5)	800	800	74,5-77,5 (72,5-79,5)		-	-	

Checking values in brackets

Testoil-ISO 41

Test Specifications Fuel Injection Pumps 2 and Governors

40

WPP 001/4 0MB 4,4 c 2

2. Edition

<u>Er</u>

PES 4 A 90 D 410 RS 2195 Z Komb.-Nr. 0 400 844 063 RQ 250/1200 AB 849 L

supersedes 6.84 company: OM-Brescia engine

Ail test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing &t prestroke

(2.10-2.30)

mm (from BDC)

		(-,·,·-,				
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1200	10,8+0,	1 6,8-6,9	0,3(0,45			
250	8,4-8,6	1,0-1,6	0,25(0,4	5)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che rev/min 1	Control rod travel	Full-load s Setting po rev/min 3	•	•	rev/min	Idle spec Setting p rev/min 7	coint Control rod travel	Test spe	cifications 5 Control rod travel	Torque of rev/min	Control rod (3) Travel mm
650	15,6-16,4	650	16,0	9,8 4,0	1245-1260 13 5-13 5	250	6,0	250	min.7,5 5,9-6,1 65=2,0	-	-

Torque-control travel on flyweight assembly dimension a =

mm

1245-1260 min

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	Full-load delivery on governor control laver Test oil temp. 40°C (104°F)		Control rod stop 3a	Fuel deliv	ery characteristics	コレハ	Starting fuel delivery Idle speed Control		
rev/min 1	cm ³ /-1000 strokes		rev/min 3	rev/min	cm ³ /-1000 strokes 5		rev/min 6	md travel cm ³ /1000 strokes;/ mm 7	
1200	68,0-69,0 (66,0-71,0)		-	800	58,0-62,0 (56,0-64,0)		100	16,3-17,0 mm RW	

Checking values in brackets

Testoil-ISO 411

40

WPP 001/4 DAF 8,3 k 4

1. Edition

En

PE 6 A 95 D 410 RS 2525/X

RQ 225/1200 AB 1007 L

company DAF DHB 825

Komb.-Nr. 0 400 646 252/X

Specifications apply to test tubing 1 680 750 015

Port closing difference between control-rod

travel 9 and max. 0,7 - 0,8 mm. All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1,95-2,15)

mm (from BDbei RW = 9,0-12,0 mm;

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	12	7,5-7,9	0,3(0,6)			
1000	9	3,2-3,9	-			
200	9	1,3-2,1	0,3(0,55)	i		
					l	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	ng of slider	Full-load : Setting po	•	•	cifications (4)	idle spec	~		cifications (5)	Torque o	control
rev/min	Control rod travel mm	rev/min 3	Control rod travel rnm 4	Central rad travel rnm	rev/min	rev/min 7	Control red travel	i	Control rod	rev/min	travel
650 VH =	19,5-20,8 max. 49°	650	20	1200 1280 1310 1390	19,7-20,0 6,5-14,0 0 -10,6 max. 1,0		8,6	100 250 350	9,8-11,7 7,3-9,9 4,2-7,0	•	- 2

Torque-control travel on flyweight assembly dimension a =

mm

1280 min Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	Full-foad delivery on governor control lever Test oil temp. 40°C (104°F)		Control rod stop 3a		Fuel delivery characteristics			Starting fuel delivery Idle speed		
rev/min 1	cm ³ /-1000 strokes		rev/min 3		rev/min 4	cm ³ /-1000 strokes 5		rev/min 6	cm ³ /1000 strokes:/ mm	
LDA 1000	0,7 bar 92,5-94,5 (89,0-98,0)		600		LDA 600	0 bar 79,0-82,0 (74,0-87,0)		100	120-130 = 19,5-21,0 mm RW	

Checking values in brackets

10.84

BÒSCH

DAF 8,3 k 4

2 -

Test at n =

600

rev/min decreasing pressure - in bar gauge pressure

000			
Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE6ARS2525/X + RQAB1007L	0,70	0,24 0	Full-load control- rod travel Full-load control rod travel - 0,1 mm Control-rod travel aspiration
	ļ	ľ	ſ

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

E6

2

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 DAF 8,3 k 16

1. Edition

PE 6 A 95 D 410 RS 2525/Y

Control r travel

12

9 9

mm

RQ 225/1200 AB 1007 L

supersedes -

Komb.-Nr. 0 400 646 252/Y

company: DAF DU 825 engine

Specifications apply to test tubing 1 680 750 015

Port closing difference between control-rod travel 9 and max. 0,7 - 0,8 mm.

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Rotational speed

1000

1000

200

rev/min

rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
	cm ³ /100 strokes	cm ³ / 100 strokes 4	mm 2	cm ³ /100 strokes	mm 6
	7,5-7,9	0,3(0,6)			
	3,2-3,9	-			
	1,3-2,1	0,3(0,55	Ь		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin	ng of slider	Full-load	speed re	gulation	_	Idle spe	ed regula	ation		Torque	control
PRG che	(1)	Setting po			cifications (4)	Setting	oint	Test spe	cifications (5)	, ,	(3)
1	2	rev/min 3	Control rod travel mm 4	Control red travel rmrn 5	rev/min	rev/min 7	Control red travel mm 8	rev/min 9	Control rod travel mm	rev/min	travel
650 VH =	19,2-20,8 max. 49°	650	20,0	1200 1280 1310 1390	19,7-20,0 6,5-14,0 0,0-10,6 max. 1,0		8,6	100 250 350	9,8-11,7 7,3-9,9 4,2-7,0	-	-
orque-c	ontrol travel		-				1	280 m	in-1		1 ନାମ less contro

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	felivery on control lever mp. 40°C (104°F)	Control rod stop	(3a) Fu	uel deliv	ery characteristics	3 b	Starting f	uel delivery
rev/min 1	cm ³ /-1000 strakes 2	rev/min 3	re 4	ev/min	cm ² /~1000 strokes 5		rev/min 6	Contra- red travel cm ³ /1000 strokes:/ mm 7
LDA 1000	0,7 bar 102-104 (100-106)	600		LDA 600	0 bar 79-82 (76,5-84,5)		100	120-130 = 19,5-21,0 mm

Checking values in brackets

DAF 8,3 k 16 - 2 -

Test at n =

600

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE6ARS2525/Y + RQAB1007 L	0,70	0,24 0	Full-load control- rod travel Full-load control rod travel - 0,1 mm Control-rod travel aspiration

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

(4)

4-

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 DAF 8,3 k 5

1. Edition

PE 6 A 95 D 410 RS 2525/Z

RQ 225/1200 AB 1007 L

supersedes-DAF

Komb.-Nr. 0 400 646 252/Z

company DHR 825 E engine

Specifications apply to test tubing 1 680 750 015

Port closing difference between control-rod travel 9 and max. 0,7 - 0,8 mm.

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Control red travel

Port closing at prestroke

Rotational speed

(1<u>,95-2,15</u>)

Fuel delivery

mm (from BDO) i RW - 9 0-12 0 funt

	361 VM - 3	7,0-12,0 11111	
Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
cm ³ / 100 strokes	mm	cm ³ /100 strokes	mm
A	12	12	e

rev/min 1	mm 2	cm ³ /100 strokes 3	100 strokes 4	mm 2	cm ³ /100 strokes 3	mm 6
1000	12,8+0,2	11,2-11,4	0,3(0,6)			
225	5,7-5,9	0,7-1,1	0,3(0,55)		
					i :	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin	g of slider ck (1)	Full-load	•	•	cifications (4)	Idle spec	•		cifications (5)	Torque	control (3
rev/min 1	Control rod travel mm 2	rev/min 3	Control red travel mm	Central red travel mm 5	rev/min	rev/min 7	Control rod travel	rev/min	Control rod	rev/min	Control rod Travel
650 VH =	19,2-20,8 max. 46°	650	20	11,9 4,0 1390	1230-1245 1315-1345 max. 1,0		5,8	225 340- 100	5,7-5,9 880 = 2,0 min.7,2	-	-
orgue-co	ontrol travel		_				1	230-1	245 min		1 mm less contr

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	lelivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	3ъ	Starting f	ruel delivery
rev/min 1	cm ³ /~1000 strokes 2	rev/min 3	rev/min	cm ³ /-1000 strokes 5		rev/min 6	cantal rad travel cm ³ /1000 strokes:/ mm
LDA 1000	0,7 bar 111,5-113,5 (109,5-115,5)	60 0	LDA 600	0 bar 84,5-87,5 (82,0-90,0)		100	120-130 = 19,5-21,0 mm RW

Checking values in brackets

10.84

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rev/min decreasing pressure – in bar gauge pressure Test at n = 1000

DAF 8,3 k 5 - 2 -

1000			
Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = ba	Gauge pressure : bar	mm (1)
PE6ARS2525/Z	0,70		12,8-13,0
+ DO AR1007/I		0,30	12,2-12,3
RQAB1007/L		U	11,5-11,6

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 DAF 8,3 K3

1. Edition

En

PE6A95 D 410 RS 2525/Z

RSV 250-1200 A5B 2013 D

DAF DHR 825 E

Komb.-Nr. 0 400 676 152/Z

Specifications apply to test tubing 1 680 750 015

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1,95-2,15)

mm (from BDC) bei RW = 9,0 - 12,0 mm

Rotational Control rod travel		Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm 1/100 strokes	cm ¹ / 100 strokes	mm	cm/100 strokes	mm
1	2	3	4	2	3	6
1000	12,8+0,2	11,2-11,4	0,3 (0,6)			
250	6,0-6,2	0,7-1,1	0,3 (0,6)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Upper rated speed rev/min			Intermediate rated speed		Lower rated speed			3 Torque control		
Degree of deflection of control	Control rod travel mm	control rod travel mm rev/min		į.		Control- lever deflection	rev/min	Control rod travel mm	rev/min	Control rod travel mm
lever 1	2	3	4	5	6	in degrees 7	8	9	10	11
	800	0,3-1,0	-	-	-	ca.21	250	5,6	400	13,1-13,2
loose	X =	•					250	6,0-6,2	300	13,3-13,8
ca.55	4,0 1	230-1240 330-1360 0,3-1,7					595-655	=2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b Full-load stop		Rotational Speed limitat 3a Fuel delivery characteristics			Starting t	uel delivery 5	4a Idle stop	
Test oil to rev/min 1	cm ¹ /1000 strokes	Note changed to) rev/min 3	rev/min	cm ¹ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min, 8	Control rod travel mm 9
l	0,7 bar 111,5-113,5 (109,5-115,5)	1230-1240*	LDA 600	0 bar 84,5-87,5 (82,0-89,0)	100	120,0-130, = RW 19,5- 21,0 mm		6,1

Checking values in brackets

* 1 mm less control rod travel than col 2

10.84

BOSCH

Geschaftsbereich KM. Kundendienst. Kfz-Ausrustung. C. 1980 by Robert Bosch GmbH. Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

Test at n =

rev/min decreasing pressure – in bar gauge pressure

DAF 8,3 K 3 - 2 -

Pump/governor	Setting	Measurement	diminution Control rod travel- difference		
	Gauge pressure = ba	Gauge pressure - bar	mm (1) .		
PE6ARS 2525/Z + RSVA5B 2013 D	0,70	0,30	12,8 - 13,0 12,3 - 12,4 11,5 - 11,6		

Notes

(1) when n =

rev/min and gauge pressure = bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps (1A) and Governors

WPP 001/4 DAF 6,2 K 2

1. Edition

PE 6 A 85 D 320 RS 2546/Z

RSV 250-1200 A1B 2025 R

Komb.-Nr. 0 400 676 154/Z

supersedes

Specifications apply to test tubing 1 680 750 015

DAF company DD 575 engine

All test specifications are valid for Bosch Fuel Injection Pump Test Senches and Testers

A. Fuel Injection Pump Settings

Port closing difference between control-rod

travel 9 and max. = 0,6 - 0,7 mm

2,15-2,25 (2.10-2.30)

 $^{mm \text{ (from PDC)}}$ bei RW = 9,0-12,0 m:1

Port closing at prestroke

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre tensioning (forque-control valve)
rev/min	mm (2)	cm1/100 strokes	cm ¹ / 100 strokes	mm	cm ¹ /100 strokes	mm
1	2	3	4	2	3	6
1000	9	4,4 - 4,7	0,3 (0,5)			
200	9	2,5 - 3,2	0,2 (0,45			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Uppe	er rated speed	l rev/min	Interm	ediate ra	led speed	4	Lowe	er rated speed	(3) 10	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min				Control- lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
ca.72	1200	16,0			•	ca.26	250	6,0	400	0
cu./E	1240 1280	11,2 5,7	with	out a	uxiliar	y spring	100	19,0+2,0	300	0,1-0,5
(2a)	1260 1300	7,0-10,0 2,2-5,4	with	ı auxi	liary s	pring	300	3,8-4,8		
	1400	0,3-1,7	. 1					1	1	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	emp 40°C (104°F)	Rotational- speed limitat		nel delivery aracteristics	Starting f	uel delivery 5	(a) Idi	e stop Control rod
rev/min	cm ¹ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm³/1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	travel mm 9
1000	44,0-47,0 (40,5-50,5)		•	-	100	115,0-125 = 19,5-21,0 mm RW		-

Checking values in brackets

* 1 mm less control rod travel than col 2

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Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 DAF 6,2 i 1 4. Edition

En

PF 6 A 90 D 320 RS 2547

RSV 250-1200 A5B 779 R

supersede 3.83 DAF DT 615

Komb.-Nr. 0 400 676 141 0 400 676 153

Specifications apply to test tubing 1 680 750 015 All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,2-2,3 Port closing at prestroke

Port closing at prestroke

RW 9

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm³/100 strokes	cm³/ 100 strokes	mm	cm³/100 strokes	mm
1	2	3	4	2 •	3	6
1000	10,8+0,1	7,1-7,2	0,3(0,45			
250	5,9-6,1	0,8-1,2	0,2(0,4)			
			Port c travel	osing d 9 and m	ifference betwe x. = 2,5° - 3,	en control-rod o camshaft

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Testoil-ISO 4113

Upper	rated speed		Intermediate	rated spe	ed	4 Lowe	r rated spo	ed	3 To:	que control
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travei mm	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
loose	800	0,3-1,0	-	-	-	ca.22	250	5,5	1000	10,8+0,
10026	×	3,25					250	5,9-6,1		11,2+0, 11,0+0,
©a.54	9,8 4,0 1450	1240-1250 1280-1310 0,3 - 1,7					330-	90=2.0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-los	ad stop	6 Rotational- speed limitat.		el delivery tracteristics	Starting Idle	fuel delivery	5a) Idle stop		
Test oil temp. 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note: changed to rev/min 3	rev/min cm³/1000 strokes		rev/min cm³/1000 strokes 6 7		rev/min 8	Control rod travel mm	
LDA 1000	0,7 bar 71,5 - 72,5 (69,5 - 74,5)	1240-1250*	LDA 600	0 bar 51,5 - 53,5 (49,5 - 55,5)	100	135,0-145, / 19,5 - 21,0 mm RW		-	

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test at n =

1000

rev/min decreasing pressure - in bar gauge pressure

DAF 6.2 i 1

-2-

	XXXXXXX		UAF 0,2 1 1
	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
+	0,7 bar		10,8 - 10,9
779 R		0,25	10,6 - 10,7
		0,21	10,1 - 10,4
		0	9,8 - 10,0
		••	
		•	
	+ 779 R	Setting Gauge pressure = bar + 0,7 bar	Setting Gauge pressure = bar Gauge pressure = bar 0,7 bar 0,25 0,21 0

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps (1A) and Governors

WPP 001/4 DAF 6,2 i 4

1. Edition

En

PE 6 A 90 D 320 RS 2547/y

RSV 250-1200 A 5 B 779 R

DT 615

Komb.-Nr. 0 400 676 153/y

engine

Specifications apply to test tubing 1 680 750 015
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2.15-2.35)

mm (from BDC)

bei RW = 9.0-12.0 mm;

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque control valve)
rev/min	mm 2	cm/100 strokes 3	cm ¹ / 100 strokes	mm 2	cni/100 strokes	mm 6
1000	10,8+0,1	7,1-7,3	0,3 (0,5)			
250	5,9-6,1	0,9-1,3	0,2(0,45)			
			Port clos travel 9	ing differ and max. =	ence between c	ntrol-rod

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1) Uppe	er rated speed		Intern	nediate ra	ited speed	(4)	Lowe	r rated speed	(3) 10	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min 3	4	5	6	Control- lever deflection in degrees 7	rev/min 8	Control rod travel mm	rev/min	Control rod travel mm
	800	0,3-1,0				ca.22	250	5,5	400	11,0-11,1
oose	X =						250	5,9-6,1	300	11,2-11,7
ca.54		240-1250 280-1310 0,3-1,7				1	330-3	90 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

9	ill-load stop		Rotational Speed limitat 3a Fuel delivery characteristics			luel delivery 5	4a Idle stop		
Test oil to rev/min 1	emp 40°C (104°F) cm³/1000 strokes 2	Note changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control root travel mm	
LDA 1000	0,7 bar 71,0-73,0 (69,5-75,5)	1240-1250*	LDA 600	0 bar 51,5~53,5 (49,0-56,0)	100	135,0-210 RW=19,5- 21,0 mm	,0 25	6,0	

Checking values in brackets

* 1 mm less control rod travel than col. 2

10.84

Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung ← 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Sluttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

Testatn =

1000

rev/min decreasing pressure - in bar gauge pressure

DAF 6,2 i 4 - 2 -

1000			
Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge prèssure = bar	mm (1)
PE6ARS 2547/y	0,70		10,8 - 10,9
RSVA5B 779 R		0,25	10,6 - 10,7
		0,21	10,1 - 10,4
		0	9,8 - 10,0

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps (2) and Governors

WPP 001/4 DAF 6,2 i 5

1. Edition

PE 6 A 90 D 320 RS 2547/Z

RQ 250/1200 AB 1022 R

companyDAF engine DT 615

Komb.-Nr. 0 400 646 256/Z

Specifications apply to test tubing 1 680 750 015

Port closing difference between control-rod travel 9 and max. = 0.6 - 0.7 mm All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,15-2,35)

mm (from BDC)	ei	RW	=	9,	0-1	12,	0	mm
				_				

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rad travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	10,8+0,1	7,1-7,3	0,3(0,5)			
600	9,8+ ,2	5,2-5,4	0,4(0,55)			
250	6,9+0,2	1,2-1,6	0,2(0,45)			
					j	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin	g of slider	Full-load	speed re	gulation	_	idle spe	ed regula	ation		Torque	control	
PRG che	` \ \ \ /	Setting p	oint	Test spe	cifications (4)	Setting p	point	Test spe	cifications (5)			(3
rev/min 1	Control rod travel mm	rev/min 3	Control rod travel mm	Control rad travel mm 5	rev/min 6	rev/min 7	Control rod travel	rev/min 9	Control rod	rev/min	Control rod travel mm	હ
650 VH =	19,2-20,8 max. 46°	650	20,0	9,8 4,0 1500	1245-1265 1340-1370 max. 1,0	•	8,5	250	min.10,0 8,4-8,6 465-2,0	-	-	
orque-c	ontrol travel		-				1	245-1	265 min	1	1 mm less co	

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

	lelivery on control lever mp. 40°C (104°F)	2	Control rod stop	3	Fuel deliv	ery characteristics	3 b	Starting I	
rev/min 1	cm ³ /-1000 strokes 2		rev/min 3		rev/min 4	cm³/-1000 strokes		rev/min 6	Control rod travel cm ³ /1000 strokes:/ mm
LDA 1000	0,7 bar 71-73 (69,5-74,5)		600		LDA 600	0 bar 51,5-53,5 (49,0-56,0)		100	135-145 = 19,5-21,0 mm RW

Checking values in brackets

DAF 6,2 i 5

_ 2 _

Test at n =

1000

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure - bar	Gauge pressure - bar	mm (1)
PE6ARS2547/Z + RQAB 1022 R	0,70	0,20 0,12 0	10,8-10,9 10,6-10,7 9,9-10,1 9,8-10,0

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

E18

Festoil-ISO 4113

Test Specifications Fuei Injection Pumps 2 and Governors

WPP 001/4 DAF 6,2 i 8. Edition

PE 6 A 90 D 320 RS 2547

RQ 250/1200 AB 1022 R

supersede 2.83 company DAF

Komb.-Nr. 0 400 646 256

DT 615 113 kW (153 PS)

Specifications apply to test tubing 1 680 750 015

Port closing difference between control-rod travel 9 and max. = 2,5° - 3,5° camshaft

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDR7=8,5 mm

Control rod travel	Fuel delivery cm ³ /100 strokes	Difference cm³/ 100 strokes	Control rod travel	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
2	3	4	2	3	6
10,8+0,	1 7,1-7,3	0,3(0,45			
6,9-7,1	1,1 - 1,5	0,2(0,4)		1	
	travel mm 2 10,8+0,	travel mm cm³/100 strokes 2 3 10,8+0,1 7,1-7,3	travel cm ³ /100 strokes cm ³ /100 strokes 2 cm ³ /100 strokes 4 10,8+0,1 7,1-7,3 0,3(0,45)	travel cm³/100 strokes cm³/1 travel travel 100 strokes 2 10,8+0,1 7,1-7,3 0,3(0,45)	travel

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	g of slider	Full-load : Setting po	•	•	cifications (4)	Idle spec	_		cifications (5)	Torque		(3)
rev/min	Control rod travel mm 2	rev/min 3	Control rad travel mm 4	Control red travel rnm 5	rev/min	rev/min 7	Control red travel mm	rev/min 9	Control rod	rev/min	Control rod travel	•
650	19,6-20,4	650	20,0	9,8	1245-1265	250	8,5	250	min. 10,0 8,4-8,6	-	-	
VH =	max. 46°			4,0 1500	1340-1370 0-1,0				65=2,0 max. 1,0			

Torque-control travel on flyweight assembly dimension a =

1245-1265 min⁻¹ Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	Starting f	uel delivery
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4		rev/min 6	Control rod travel cm ³ /1000 strokes:/ mm
LDA 1000	9,7 bar 71,5 - 72,5 (69,5 - 74,5)	,	LDA 600	0 bar 51,5 - 53,5 (49,0 - 56,0)		135,0-145,0 (132,0-148,0) = 19,5-21,0 mm R7 7 mm R7

Checking values in brackets

Test at n > 1000 rev/min decreasing pressure - in bar gauge pressure

DAF 6.2 i

1000	·		UAF_6,2 1
Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure bar	Gauge pressure - bar	mm (1)
RS 2547 + RQAB 1022 R	0,70	0,20 0,12 0	10,8 - 10,9 10,6 - 10,7 9,9 - 10,1 9,8 - 10,0

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

-2-

E21

②.

Festoil-ISO 4113

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 OMB 7.4 b 3

1. Edition

PES 6 A 90 D 410 RS 2566

RO 300/1400 AB1061DL

supersedes 5.79 company OM Brescia

8360.04.300

Komb.-Nr. 0 400 846 434

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1400	10,9-11	7,2-7,4	0,3(0,45)			
300	7,9-8,1	0,9-1,5	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin	g of slider ck	Full-load	•	•	cifications (4)	ldle spec	•		cifications (5)	Torque d	control (3)
rev/min	Control rod travet mm 2	rev/min 3	Control red travel rnm 4	Control red travel mm 5	rev/min	rev/min 7	Control rod travel	rev/min 9	Control rod travel	rev/min	Control rod Utravel
600	15,6-16,4	600	16,0	9,9 4,0 1 7 00	1445-1460 1555-1585 0 - 1,0	300	-	100 300 445-4 600	min.7,5 5,9-6,1 85 =2,0 0 - 1	790 615	10,9-11,0 11,2-11,5 12,3-12,5 12,4-12,5

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At 1445-1460 min

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	Starting f Idle spee	uel delivery d Contra
rev/min 1	cm³/~1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	rod travel cm ³ /1000 strokes:/ mm
1400	72,5 - 73,5 (70,5 - 75,5)	500	500	60,5 - 63,5 (58,5 - 65,5)	100	115,0=125,0 (112,0=128,0) = 16,3=16,7 mm RW

Checking values in brackets

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MB 5,7 u 6 2. Edition

En

PES 6 A 90 D 410 RS 2569 RQV 300-1400 AB 1111-2L Komb.-Nr. O 400 846 492

supersed 6.82 companDaimler-Benz engine OM 352 88 kW (120 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,25-2,35 (2,20-2,40) mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1400	9,8-9,9	5,5 - 5,6	0,3(0,45)			
300	8,2-8,4	0,9 - 1,5	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed			Intermediate	rated sp	eed	Lower rated	speed		Sliding	ileeve travel
Degree of deflection of control lever	rev/min Control rod travel mm	mm .	ال	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	ı
1	2	3		4	5	6	7	8	9	10	11
max.	1500	15,2-17	8	-	-	-	ca. 24	100	min. 9,8	250	0,7-0,9
ca.64	8,8 4,0 1630	1440-145 1530-156 0 - 1,	50					300 550 - 6	8,2-8,4 10 = 2,0		3,7-3,8 5,3-5,4 7,7
							3				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed	Fuel deli- high idle s	very characteristics 5a speed 5b	Starting idle switchir	. 0	Torque- travel	control 5	
rev/min 1	cm³/1000 strokes	rev/min 4a 3	rev/min 4	cm ³ /1000 strokes	rev/min 6	cm ³ /1000 strokes 7	rev/min	travel mm	
1400	54,5-55,5 (52,5-57,5)	1440-1450*	500	46,5-49,5 (44,5-51,5)	100	73,0-83,0 (70,0-86,0) = 14,8-15,2 mm RW	630	9,8+0, 11,0+0, 10,8+0, 10,2+0,	

Checking values in brackets

* 1 mm less control rod travel than col. 2

11.84

BOSCH

Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 MB 5,7w2

2. Edition

PES 6 A 90 D 410 RS 2569

Komb.-Nr. 0 400 876 289

RSV 350 - 1400 AO B 1136 L

AO C 1136 L

supersede11.80 compan,Daimler-Benz engine OM 352 81 kW (110 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

(2 20-2 40)

estoil-ISO 4113

mm (from BDC)

ort closing at prestroke	(2,20~2,40)
In Closing at the shoke	2,25-2,35

Rotational speed rev/min	travel	Fuel delivery cm ^{-/} 100 strokes	Difference cm ^{-y} 100 strokes	Control rod travel	Fuel delivery cm //100 strokes	Spring pre-tensioning (torque control valve) mm
1	2	3	4	2	3	6
1400	9,6-9,7	4,8 - 4,9	0,2(0,25)			
350	7,9-8,1	0,7 - 1,3	0,2(0,25)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Degree of deflection of control lever	r rated speed Control rod travel mm 2		Interme	diate rated	speed 6	Control lever deflection in degrees 7	Lower rev/min 8	r rated speed Control rod travel mm 9	3 to	rque control Control rod trave! mm
loose	800	0,3-1,0				ca.18	350	7,5	1400 500	9,6-9,7 10,3-10,4
ca.62	1470-1	450 = 8,6 500 = 4,0 0,3-1,7					350 590 - 6	7,9-8,1 50 = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

W	ull-load stop emp_40°C (104°F)	Rotational- speed mitat	11001	uel delivery paracteristics	Starting Idle	fuel delivery 5	4a 'd	le stop
	cm ¹ /1000 strokes 2	Note changed to) rev/min 3	rev/min 4	cm/1000 strokes	rev/min	cm ^{1/1000} strokes	rev/min 8	Control rod travel rnm
1400	48,5 - 49,5 (46,5 - 51,5)	1440-1450*	500	39,0 - 42,0 (3 7 ,0 - 4 4 ,0)	100 (80,0-90,0 77,0-93,0)	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

11.84

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. c. 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Ferferal Republic of Germany Imprime an République Fédérale d'Allemagne par Robert Bosch GmbH.

Test Specifications Fuei Injection Pumps (1A) and Governors

WPP 001/4 MB 5,7w3

4. Edition

PES 6 A 90 D 410 Komb.-Nr. 0 400 876 291

RS 2569

RSV 350 - 1275 A0 B 1138 L

En

AOC 1138 L

supersed 8.82 companyDaimler-Benz engine OM 352 62 kW (84 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Festoil-ISO 4113

(2,20-2,40) 2,25-2,35 mm (from BpC)RW = 9,0-12,0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/mib	mm 2	cm#190 strokes 3	cm // 100 strokes 4	mm 2	cm ⁻ /100 strokes	mm 6
1250	8,4-8,5	4,0 - 4,1	0,3(0,25)			
350	7,7-7,9	0,8-1,4	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	er rated speed	t rev/min	Intern	ediate rat	ed speed	(4)	Lowe	r rated speed	(3) 10	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min	4	5	6	Control- lever deflection in degrees 7	rev/min	Control rod travel mm	rev/min	Control rod travel mm
loose	800 x = 6	0,3-1,0		t	 	ca.35	350 100	7,3 min.19,0	1250 500 785	8,4-8,5 9,7-9,8 9,0-9,2
cā. 72	1405-1	300 = 7,4 1435= 4,0 0,3 - 1,7					350 670 -	7,7-7,9 730=2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b Ft	ill-load stop	6 Rotational- speed limitat		uel delivery naracteristics	Starting t	luel delivery 5	4a Idi	e stop
rev/min	emp 40°C (104°F) cm ¹ /1000 strokes 2	Note changed to) rev/min 3	rev/min	cm 1/1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm
1250	40,5 - 41,5 (38,5 - 43,5)	1290-1300*	750 600	39,5 - 41,5 (37,5 - 43,5) 37,0 - 39,0 (35,0 - 41,0)	100	80,0-90,0 (77,0-93,0 =15,8- 16,2 mm I		-

Checking values in brackets

* 1 mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 MB 5,7w8

3. Edition

En

PES 6 A 90 D 410 RS 2569 Komb.-Nr. O 400 876 292

RSV 350-1300A0B 1140L AOC 1140 L supersedes 8.82 company Daimer P nz

engine OM 352

81 kW (110 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

estoil-ISO 4113

(2,20-2,40) 2,25-2,35

mm (from BDC)

cm 1/100 strokes	cm ^{-/} 100 strokes	travet mm	cm//100 strokes	Spring pre tensioning (torque-control valve)
	0,3(0,45)		3	6
,8 0,9-1,5	0,2(0,4)			
	9.1 5.3 - 5.4	(2) cm 1/100 strokes 100 strokes 4 -0.1 5.3 - 5.4 0,3(0,45)	2 cm ¹ /100 strokes cm ¹ /100 strokes mm 2 -0.1 5.3 - 5.4 0,3(0,45)	2 cm 100 strokes cm 100 strokes mm 2 cm 100 strokes 3 -0.1 5.3 - 5.4 0,3(0,45)

Adjust the fuel delivery from each outlet according to the values in

_* Set idle-speed auxiliary spring at 2 mm control-rod travel.

B. Governor Settings

1 Uppe	r rated speed	d rev/min	Interme	diate rate	d speed	4	Lower	rated speed	(3) to	rque control
Degree of deflection	Control rod travel	Control rod travel	-		1	Control		Control rod		Control rod
of control lever	mm	mm rev/min		İ		deflection	rev/min	mm	rev/min	mm
1	2	3	4	5	6	in degrees 7	8	9	10	11
lose	800	0,3-1,0] -	-	-	ca.20	350	2,0*	1300	10,1-10,2
			4				350	8,6-8,8	1000	10,5-10,8
ca.61	1435-1	350=9,1 465=4,0 1,3-1,7					630-69	1		11,2-11,3

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

C	ull-load stop	6 Rotational speed limitat		uel delivery haracteristics	Starting Idle	fuel delivery 5	4a 16		
rev/min	emp 40°C (104°F) cua //1000 strokes 2	Note changed to) rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes	rev/m⊭n 8	Control rod travet mm	
1300	53,0 - 54,0 (51,0 - 56,0)	1340-1350*	500	45,0 - 47,0 (43,0 - 49,0)	100	78,0-88,0 (75,0-91,0) ~	-	
						į			

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 MB 5,7 w 11 1. Edition

En

PES 6 A 90 D 410 RS 2569

RSV 350-1200 A 0 B 1140-1 L

Komb.-Nr. 0 400 876 325

supersedes =

company Daimler-Benz

om 352 engine 70 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Renches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,25-2,35 (2,20-2,40)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ¹ /100 strokes	cm ¹ / 100 strokes	mm	cm /100 strokes	mm
1	2	3	4	2	3	6
1200	9,3-9,4	4,3-4,4	0,3 (0,5)	<u></u>		
350	8,4-8,6	1,0-1,6	0,2 (0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	er rated speed	rev/min	Interm	ediate rat	ed speed	4	Lowe	er rated speed	3 Forque control		
Degree of deflection of control	Control rod travel	Control rod travel				Control- lever deflection	rev/min	Control rod travel	rev/min	Control rod travel	
lever 1	2	3	4	5	6	in degrees	8	9	10	11	
loose	800	0,3-1,0	-	_	-	lose	350	8,5	1200 850	9,3-9,4 10,6-10,7	
	X =	3,75					100	min. 19,5	950	10,3-10,5	
ca.58	8,3 4,0 1480	1230-1240 1330-1360 0,3-1,7					350	8,4-8,6	1100	9,5-9,7	

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2b ^F	ull-load stop	6 Rotational- speed limitat		uel delivery naracteristics	Starting t	ting fuel delivery 5 4a Idle stop			
Test oil to rev/min 1	emp 40°C (104°F) cm/1000 strokes 2	Note changed to) rev/min 3	rev/min	cm³/1000 strokes	rev/min	cm½1000 strokes	rev/min 8	Control rod travel mm	
1200	43,0-44,0 (41,0-46,0)	1230-1240*	850	49,0-52,0 (46,5-54,5)	100	78,0-88,0 (75,0-91,0 =16,0-16,4 mm RW	()	-	

Checking values in brackets

11.84

Geschaftsbereich KH. Kundendienst %fz-Ausrustung

† 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

^{* 1} mm less control rod travel than col 2

①

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MB 3,8 n i1

1. Edition

PES 4 A 90 D 410 RS 2570 Komb.-Nr. 0 400 844 086

RQV 300-1400 AB 1065-7 L

supersedes

companyDaimler-Benz engine OM 314 63 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke	2,25-2,35	mm (from BDC)	mm (from BDC)								
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6						
1400	11,0+0,1	6,4-6,5	0,3(0,5)									
300	5,9-6,1	1,0-1,4	0,2									

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediate	rated sp	eed	Lower rated	speed		Slidina s	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travet mm (2a)	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min 8	Control rod travei mm 3	rev/min 10	mm 11
max.	1420	15,2-17,8	-	-	-	ca. 12		min.7,5		0,8-1,4
ca. 59	10,0			!			300	15,9-6,1	800 1445	4,3-4,5 8,1
	1700	0-1,0				410-480				
						3 a				

Torque control travel a = 0,80 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roo Test oil ten		limitation intermediate speed	high idle s	very characteristics (5a)	Starting Idle switchin		Torque- travel	Control cod	
rev/min	cm³/1000 strokes	rev/min 40	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm	
1	2	3	4	5	в	7	8	9	
1400	64,0-65,0 (62,0-67,0)	1440-1450*	900	64,0-66,0 (61,5-68,5)	100 ;	78,0-88,0 (75,0-91,0)	900	11,0+0, 11,8+0, 11,4+0,	

Checking values in brackets

* 1 mm less control rod travel than col. 2

2 >

(1)

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 LIE 5,6 b

1. Edition

PES 4 A 100 D 410 RS 2686

RQV 400-1000 AB 1203 L

Komb.-Nr. 0 400 844 085

supersedes company:Liebherr D 904 T

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

,7-2,8 ,65-2,85) Port closing at prestroke mm (from BDC) Control rod Rotational speed Control rod Fuel delivery Difference Spring pre-tensioning (torque-control valve) Fuel delivery cm³/ cm³/100 strokes rev/min 100 strokes mm mm cm³/100 strokes 11,9-12,1 1000 11,4+0,1 0,35(0,6) 400 5,3-5,5 1,0-1,6 0,35(0,55

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated	speed		Intermediat	e rated sp	eed	Lower rated	speed	_	Sliding	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min (28	of control	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	mm
max.	1070	15,2-17,8	-	-	-	ca. 11	100 400	min.6,9 5,4-5,6	375 600	1,0-1,1 3,7-4,0
ca. 62	10,4 4,0	1040-1050 1105-1135				420-530		10,10,10	000 150	7,5-7,6 9,9
:						3				

Torque control travel a = 1,2

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		imitation intermediate speed	(3)		Starting Idle switching		Torque- travel	Control rod
rev/min	cm³/1000 strokes	rev/min 40	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	ww.
1	2	3	4	5	6	7	8	9
LDA 1000 LDA 900	0,7 bar 119,0-121,0 (117,0-123,0 0,7 bar 125,5-128,5 (123,0-131,0)	LDA 700 LDA 500	0,7 bar 128,5-131,5 (126,0-134,0) 0 bar 87,5-90,5 (85,5-92,5)		125,0-135,0 (122,0-138,0) = 14,7-15,3 mm RW	500 900	11,4+0, 12,6+0, 11,8+0, 12,3+0,

Checking values in brackets

* 1 mm less control rod travel than col. 2

LIE 5,6 b

Test at n =

500 rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PES 4 A RS 2686 +RQV AB 1203 L	0,70	0 0,40 0,33	12,6-12,7 10,2-10,3 11,8-11,9 10,6-10,8

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 MB 9,6 b

8. Edition

En

PE 6 P 100 A 320 LS 818 Komb.-Nr. 0 401 876 183

RSV 350-1250 P0/810 ..POA810 company Daimler-Benz OM 401

1-6-3-5-2-4

0-75-120-195-240-315° ±0,5° (±0,75°)

141 kW (192 PS) (1) 129 kW (175 PS) (2)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

3,4-3,5 (3,35-3,55)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm (2)	cm1/100 strokes	cm ^{-y} 100 strokes	mm	cm1/100 strokes	mm
1	2	3	4	2 •	3	6
1230	10,3+0,1	10,2-10,4	0,3(0,6)			
350	7,2-7,4	1,4-2,0	0,3(0,5)			
	İ					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1) Uppe	r rated speed		Interme	diate rate	d speed	4	Lower	rated speed	(3) 10	rque control
Degree of defiaction	Control rod travel	Control rod travel				Control- lever		Control rod travel		Control rod travel
of control lever	mm 2	mm rev/min	4	5	6	deflection in degrees 7	rev/min 8	mm 9	rev/min	mm 11
1	800	0,3-1,0	-	-	+	ca. 34	350	7,3	-	-
loose	X_=						350	7,2-7,4 60 = 2,0		
ca. 62	4,4	1280-1290 1360-1380					500-5	60 = 2,0 **		,
	1400	0,3-1,7								

The numbers denote the sequence of the tests Set idle-speed auxiliary spring at 2 mm control-rod travel.

C. Settings for Fuel Injection Pump with Fitted Governor

	II-load stop emp 40°C (104°F)	Rotational- speed limitat		rel delivery paracteristics	uel delivery 5	elivery 5 4a Idle stop		
rev/min	cm1/1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ¹ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	travel mm 9
1230 (1)	102,0-104,0 (100,0-106,0)	1280-1290*	-	-	100	140,0-160 (136,0-164	0 - ,0)	•
					;			

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. č. 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

(1) Upper	rated speed		Intermediate	rated spe	ed	4 Lowe	r rated spe	ed	3 Torque control	
Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control red travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
ca.63	1250 1350	14,0 8,7	without	auvi	liary spri	ca. 31	350	5,9	-	-
	1450	2,8	Wichout	. aun i	ilaly spil	119	100 350	19-21 5,6-6,2		
ca.60	1250 1360	ca.10,8 ca. 4,4					450	0,9-3,1		1
(3)	1430	0,3-1,0	with au	xilian	ry spring		500	0-1,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-I	oad stop	6 Rotational speed limitat	Ga) Fuel delivery characteristics		Startini Idle	g fuel delivery	(5a) Idle stop	
Test oil ten rev/min 1	np. 40°C (104°F) cm ⁻¹ /1000 strokes 2	Note changed to rev/min 3	rev/min	cm³/1000 strokes 5	rev/mir	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9
1230 (2)	93,0-95,0 (91,0-97,0)	1280-1290*	-	-	100	110,0-130,0	-	-
			6a					

Checking values in brackets

Testeil-ISO 4113

* 1 mm less control rod travel than col 2

B. Governor Settings

1 Upper Degree of deflection of control lever	deflection travel of control		Intermediate rated speed Degree of Control rod deflection of control lever rev/min mm		Degree of deflection of control lever rev/min Control mm			3 Torque control Control rod travel		
1	2	3	4	5	6	7	8	9	10	11
(5)										

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-lo	ead stop	6 Rotational- speed limitat		el delivery aracteristics	Starting Idle	fuel delivery	(5a) Idle stop		
Test oil tem rev/min 1	o 40°C (104°F) cm³/1000 strokes 2	Note changed to rev/min 3	rev/min	min cm³/1000 strokes		cm ³ / 1000 strakes 7.	ł	Control rod travel mm 9	
						,			
)					

Test Specifications Fuel Injection Pumps (1A) and Governors

WPP 001/4 MB 10,6a

4. Ed.tion

En

Testoil-ISO 4113

PE 6 P 100 A 320 LS 841 Komb.-Nr. 0 401 876 243 RSV 650-1150 P 1/820 R

P 1A820

supersedes 7.83 company Daimler-Benz engine OM 401 150 kW (204 PS)

6 - 3 - 5 - 2 - 4 - 1 $0 - 45 - 120 - 165 - 240 - 285^{\circ} \stackrel{+}{=} 0,5^{\circ} (\stackrel{+}{=} 0,75^{\circ})$

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings (3,15-3,25) Port closing at prestroke 3,20-3,30 mm

mm (from BDCZyl. 6; RW=9.0 - 12.0 mm

Rotational speed	Control rod	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm /100 strokes 3	cm ^y 100 strakes 4	mm 2	cm/100 strokes	mm 6
1130	12,7+0,1	11,9 - 12,1	0,3(0,6)			
650	6,1-6,3	0,8 - 1,3	0,3(0,5)			

Adjust the fuel delivery from each outlet according to the values in E

** Set idle-speed auxiliary spring at 2 mm control-rod travel.

B. Governor Settings

(1) Uppe	er rated speed	frev/min	Intermediate rated speed			Lower rated speed			3 Torque control		
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min 3	4	5	6	Control- lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	rev/min	Control rod travel mm	
loose	800 X =	0,3-1,0 4,0				ca.32	650 660-71	6,2 ** 5 = 2,0	4	12,7-12,8 12,7-12,9	
ca·58	1195-1	1170 =11,7 1210 = 5,1 0,3 - 1,4									

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	ill-load stop	6 Rotational speed limitat	Ga Fuel delivery characteristics		Starting t	luel delivery 5	4a) Idle stop	
Test oil te rev/min 1	emp 40°C (104°F) cm ¹ /1000 strokes 2	Note changed to) rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min 8	Control rod travel mm
1130	119,0 - 121,0 (117,0 - 123,0)	1160-1170*	-	-	100	110,0=130 106,0=134	,0 ,0) 650	6,2

Checking values in brackets

* 1 mm less contro! rod travel than col 2

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 MAN 20,9 h 3

1. Edition

PL 12 P 120 A 520 LS 843-1

RQ 750 PA 663 L

MAN company

Komb.-Nr. 0 401 840 082

D 2542 MLE engine 320 kW

1-5-9-8-3-4-11-10-2-6-7-12 0-15-60-75-120-135-180-195-240-255-300-315° $\stackrel{+}{=}$ 0,5° ($\stackrel{+}{=}$ 0.75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2.95-3.15)

mm (from BDZ)y 1. 12

	(2,33-3,13/		,		
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ⁹ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	10,3+0,1	17,6-18,0	0,5(0,9)			
250	3,9-4,1	1,7-2,3	0,8(1,2)			
		i				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

4	ng of slider						Idle speed regulation				Torque control		
PRG ch		(1)	Setting po			cifications (4)	Setting p		Test spe	cifications (5)	i	Control rod (3)	
ŀ	Control rod travel	_		Control red travel	Control red travel			Control rod travel		Control rod travel		travel	
rev/min	mm		rev/min	mm	mm	rev/min	rev/min	mm .	rev/min	mm	rev/min	നന	
1	2		3	4	5	6	7	8	9	10	11	12	
-	-		•	-	9,3 4,0 900	750-755 776-789 0-1,0	-	-	-	-	-		

Torque-control travel on flyweight assembly dimension a =

750-755 min⁻¹

1 mm less control

C. Settings for Fuel injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	3Ъ)	Starting fuel delivery Idle speed		
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5		rev/min 6	red travel cm ³ /1000 strokes:/ mm 7	
700	176,0-180,0 (173,0-183,0)	-	-	<u>-</u>		-	-	

Checking values in brackets

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MAN 17,4 a 3

2. Edition

PE 10 P 110 A 520/5 LS 846 RQV 250-1150 PA 673

Komb.-Nr. 0 401 849 180

1- 8- 7- 6- 3 - 5 - 2 - 10- 9 - 4 0-27-72-99-144-171-216-243-288-315° ± 0,50° (± 0,75°) supersede 2 • 83 company MAN engine D 2540 MT 323 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 atrokes	cm ³ / 100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	
1150	11,9+0,1	14,0-14,2	0,4(0,8)	į		
250	7,2-7,4	1,1-1,7	0,4(0,7)			
					1	
					1	
	ľ		ł	1 '		}

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediate	rated sp	eed	Lower rated	speed		Sliding s	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod ta travel mm rev/min (28)	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min 8	Control rod travel mm 3		mm 11
max. ca.65	1170 10,9 4,0 1450	15,2-17,8 1190-1200 1335-1365 0-1,0	-	-	-	ca.12		min.8,8 7,2-7,4 465=2,0		2,0-2,5 6,5-6,7 8,4
						39				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		timitation intermediate speed	high idle t	very characteristics 50 speed 50	Starting Idle switchir	. •	Torque- travel	Control Control rod
rev/min	cm³/1000 strokes	rev/min 40	rav/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm .
1	2	3	4	5	6	7	8	9
LOA 1150	0,9 bar 140,0-142,0 (137,0-145,0)		LDA 750 LDA 500	0,9 bar 131,0-135,0 (128,0-138,0 0 bar 115,0-118,0 (112,0-121,0)	145,0-175,0 (141,0-179,0		-

Checking values in brackets

* 1 mm less control rod travel than col. 2

MAN 17,4 a 3

- 2 -

Testatn =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1) .
PE 10 PLS 846	0,90		11,9 - 12,0
+ RQVPA 673		0	11,2 - 11,3
		0,38	11,7 - 11,8
		0,33	11,3 - 11,5
		:	

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod/travel)

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MAN 20,9 q 1

2. Edition

engine:

PE 12 P 110 A 520/4 LS 848

ROV 250-1200 PA 668-4

supersedes 12.83 company: MAN

Komb.-Nr. 0 401 840 094

D 2842 ME

1- 5- 9- 8- 3 - 4 - 11- 10- 2 - 6 - 7 - 12

0-15-60-75-120-135-180-195-240-255-300-315° ± 0.5 °(± 0.75 °)

338 kW Schiff

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1200	11,2+0,	1 12,4-12,7	0,4(0,75)			
250	6,5-6,7	1,0-1,5	0,45(0,75)		
				<u> </u>		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed			Intermediate	rated sp	eed		Lower rated	speed		Slidings	leeve travel
	rev/min Control rod travel mm	mm .		Degree of deffection of control lever	rev/min	Control r travel	od (4)	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	0
1	2	3		4	5	6		7	8	9	10	11
max.	1330	15,2-17	,8	•	•	-		ca.11	100 250	min.8,1		1,9-2,3 5,6-5,8
ca. 62	10,2 4,0 1500	1240-12 1350-13 0-1,	80					425-550		6,5-6,7	1200	7,4
	1500	U-1,	۱۳					423-330				
								3				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil te		Rotational-speed 2b timitation intermediate speed	Fuel deli- high idle :	very characteristics (58)	Starting Idle switchli		Torque- travel	control 5
rev/min	cm³/1000 strokes	rev/min 40	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
1200	124,0-127,0 (121,5-129,5		-	-	100	150,0-170,0 (146,0-174,0		-
					250	10,0-15,0 (7,5-17,5)		
					'			

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MAN 17,4 b 5 2. Edition

En

PE 10 P 120 A 520/S LS 850

RQV 250-1150 PA 668-6

1-8-7-6-3-5-2-10-9-4 0-27-72-99-144-171-216-243-288-315° ± 0,5° (± 0,75°) supersp@s83
compMAN
engin@ 2540 MLE 405 kW
KOMb.-Nr. 0401849177

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

		_		_
	(*)	
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		25		
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	Ä		İ	
1	7	4	i	
1	7	-	Į	

Port closing at pres	stroke		mm (from BDC)	Zyl. 10		
Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel man 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	11,2+0,1	18,6-18,8	0,5 (0,9)			
250	6,2-6,4	Values only a	B 901 019	st nozzl and fuel	e-and-holder -injection tes	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	e rated sp	eed	Lower rated	speed	Sliding sleeve travel		
deflection of control	rev/min Control rodtravel mm 2	Control rod travel mm rev/min (2)	of control	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min	Control rod travel mm 3	rev/min	0
max.	1230	15,2-17,8	-	-	-	ca. 11	100 250		350 750	2,0-2,5 5,2-5,6
ca. 59	10,2 4,0 1400	1190-1200 1260-1290 0 - 1,0				(3a)			1150	7,5-7,9 3,8

Torque control travel a = _ mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten		Rotational-speed (20 fimitation intermediate speed	Fuel deli high idle :	very characteristics (5a)	Starting idle switchli	,	Torque- travel	Control rod
rev/min	cm³/1000 strokes	rev/min 46	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
1150	186,0-188,0 (183,0-191,0		-	•	100	205,0-225,0 (201,0-229,0)	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

40

WPP 001/4 SAU 12,0 d 1 2. Edition

<u>En</u>

PES 6 P 120 A 420 RS 3049-1 RQ 300/1100 PA 687 1-4-2-6-3-5 je $60^{\circ}\pm0.5^{\circ}$ ($^{\pm}0.75^{\circ}$) Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

supersedes 3.84
company Saurer
D4KTM
235 kW

Komb.-Nr. 0 402 046 744

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,8-2,9 Port closing at prestroke (2,75-2,95)

de.

mm (from BDC)

		.,/3-2,33/				
Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	12,4+0,1	20,5-20,7	0,5(0,9)			
300	5,0-5,2	2,3-2,9	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin	g of slider	Full-load	speed re	gulation	_	idle spe	ed regula	ation		Torque o	control
PRG che rev/min 1	Control rod travel	Setting por rev/min 3	Control rod travel mm	Test spe- Control rod travel mm 5	rev/min	Setting prev/mim	Control rod travel	Test spe rev/min 9	cifications Control rod travel mm 10	rev/min	Control rod travel mm 12
750	13,1-13,9	750	13,5	10,3 4,0 1350	1145-1160 1200-1230 0-1,0		5,1	300	min.6,5 5,0-5,2 80 = 2,0	700 900 1000 1100	12,4-12,5 12,1-12,4 11,8-12,0 11,4-11,8

Torque-control travel on flyweight assembly dimension a =

0,45 mm

1145-1160 min-1 Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	3 b	Starting f	
rev/min	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5		rev/min 6	Control rad travel cm ³ /1000 strokes:/ mm
LDA 700	0,9 bar 205,0-207,0 (202,0-210,0)	-	LDA 400	0 bar 88,0-92,0 (85,0-95,0)		100	210,0-240,0

Checking values in brackets

11.84

BOSCH

Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung.

1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

fest at n : 500	rev/min decreasing pressure - in	bar gauge pressure	SAU 12,0 d 1
Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PES 6 PRS 3049-1 + RQPA 687	0,90	0 0,60 0,35	12,4-12,5 8,6-8,7 11,8-11,9 9,5-9,7

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

1. Edition

PES 6 P 120 A 420 R\$ 3049-1 X RQ 3 1-4-2-6-3-5 je 60° - 0,5° (- 0,75°) RQ 300/1100 PA 687 Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

supersedes = Saurer company D 4 KTM engine 184 kW

Komb.-Nr. 0 402 046 744 X

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2.75-2.95)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	cm ³ / 100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
700	9,9+0,1	16,0-16,2	0,5(0,9)			
300	5,0-5,2	2,3-2,9	0,8 (1,2)			
				ļ		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

on flyweight assembly dimension a =

Checkin	g of slider	Full-load	speed re	gulation	_	Idle speed regulation				Torque	control
PRG check		Setting point Test specifications			cifications (4)	Setting point Test specifications (5)				(3	
rev/min 1	Control rod travel mm 2	tev/min 3	Control red travel rmm 4	Control rad travel mm	rev/min	rev/min 7	Control red travel rmm 8	rev/min 9	Control rod	rev/min	Control rod travel mm 12
750	13,1-13,9	750	13,5	7,6 4,0 1350	1145-1160 1200-1230 0 - 1,0		5,1		5,0-5,2 80 = 2,0	700 930 1030 1100	9,9-10,0 9,6-9,9 9,0-9,2 8,7-8,9
orgue c	ontrol travel		0,45				114	15-116	60 min ⁻¹		1 mm less contr

Speed regulation: At

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics		arting fi e spee	uel delivery 6
rev/min 1	cm ³ /~1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes	rev 6	//min	cm ³ /1000 strokes / mm
LDA 700	0,7 bar 160,0-162,0 (157,0-165,0)	•	LDA 400	0 bar 88,0-92,0 (85,0-95,0)	1	00	210,0-240,0

Checking values in brackets

11.84

rod travel

SAU 12,0 d 2

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure bar	Gauge pressure = bar	mm (1)
PES 6 PRS3049-1X + RQ PA 687	0,70	0 0,45 0,37	9,9-10,0 8,6-8,7 9,5-9,6 8,8-9,0

Notes

(1) when n =

rev/min and gauge pressure "

bar (* maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 11,0 c 4

1. Edition

PE 6 P 110 A 320 LS 3805-10

RQV 300-1150 PA 524-4

Komb.-Nr. 0 401 846 748

supersedes

company Daimler-Benz OM 421 engine

159 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

4,0-4,1 (3.95-4.15) Port Closing at prestroke mm (from BDC)

Rotational speed rev/min 1		Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	11,7+0,1	13,2-13,4	0,4(0,8)			
300	7,8-8,0	1,2-1,8	0,4(0,7)			

Adjust the fuel delivery from each outlet according to the values in E

B. Governor Settings

Upper rated	Upper rated speed				rated sp	eed	Lower rated	speed	Sliding sleeve travel		
Degree of deflection of control lever	rev/min Control rod travel mm	mm	ال	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travet mm 3	rev/min	1
max.	1190	15,2-17,	8	-	-	-	ca. 22	100	min.9,5 7,8-8,0	300	1,6-1,8 5,8-6,2
ca. 55	1	1190-120 1235-126 0-1,0	5						70=2,0		8,2-8,4 10,0
							3 a				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-toad delivery Control-rod stop Test oil temp 40°C (104°F) 2		limitation intermediate speed	Fuel deliv	very characteristics (5e)	Idle	fuel delivery 6	Torque- travel	Control rod
rev/min	cm ³ /1000 strokes	rev/min 40	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	
1	2	3	4	5	6	7	8	9
1150	132,0-134,0 (129,5-136,5)	1190-1200*	600	110,0-114,0 (107,0-117,0		130,0-150,0 (126,0-154,0		-

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps (2) and Governors

WPP 001/4 MB 14.6 a 1

1. Edition

PE 8 P 120 A 320 LS 3807-10 RQ 300/1150 PA 546-2

1 - 8 - 7 - 2 - 6 - 3 - 5 - 4 je $45^{\circ} \pm 0.5^{\circ} (\pm 0.75^{\circ})$

company Daimler-Benz OM 422 LA

276 kW

Komb.-Nr. 0 401 848 753

tubing 1 680 750 067 All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Values only apply to test nozzle-and-holder

assembly 1 688 901 019 and fuel-injection test

Port closing at prestroke

(3.95-4.15)

mm (from BDC)Zv1. 8

Control rod		1			
travel	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
12.0+0.1	18.2-18.4	0.5(0.9)			
		7		1	
-	C, Sp. 4 u. 5	0,8(1,2			, ·
	travel	travel cm ³ /100 strokes 2 3 12,0+0,1 18,2-18,4 5,4-5,6 1,2-2,0	travel mm cm³/100 strokes 2 3 cm³/ 100 strokes 4 0,5(0,9) 5,4-5,6 1,2-2,0 0,8(1,2)	travel cm³/100 strokes 2 cm³/ 100 strokes 4 cm³/ 100 strokes 4 2 2 12,0+0,1 18,2-18,4 0,5(0,9) 5,4-5,6 1,2-2,0 0,8(1,2)	travel (mm) (cm³/100 strokes 2 (m³/100 strokes 4 (mm) (cm³/100 strokes 2 (mm)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	g of slider	Full-load speed regulation Setting point Test specifications			cifications (4)	Idle speed regulation Setting point Test specifications (5)				Torque control		
rev/min	Control rod travel mm 2	rev/min	Control rod travel mm 4	Control red travel rnm 5	rev/min	rev/min 7	Control rod travel	rev/min 9	Control rod	rev/min	travel	
600 VH=m	19,2-20,8 ax. 46°	600	20,0	11,0 4,0 1350	1195-1210 1255-1285 0-1,0	300	4,9	300 !	nin.6,5 ,4-5,6 15=2,0	750	2,0-12,1 2,4-12,5 12,2-12,4	

Torque-control travel on flyweight assembly dimension a =

1195-1210 min-1

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

	lelivery on control lever pp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	Starting f	uel delivery 6
rev/min 1	cm ¹ /-10u) stroke: 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	cm ³ /1000 strokes:/ mm
LDA 1150	0,7 bar 182,0-184,0 (179,0-187,0)	-	LDA 750 LDA 500	0,7 bar 195,0-198,0 (192,0-201,0) 0 bar 141,0-143,0 (138,0-146,0)	100	140,0-160,0 (136,0-164,0)

Checking values in brackets

10.84

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Test at n =	500	decreasing pressure - in bar gauge pressure
	500	increasing

Pump/governor	Setting Gauge pressure bar	Measurement Gauge pressure = bar	diminution Control rod travel difference mm (1)
PE 8 P LS 3807 + RQPA 546-1	0	0,40 0,55	10,5 - 10,7 11,1 - 11,2 12,2 - 12,4

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

WPP 001/4 OMB 4,4 d 1

4. Edition

En

supersedes 12.80

RSV 325-1050 A 4 B 1079 DL company OMB CO 3

PES 4 A 90 D 410 RS 2195 Z

Komb.-Nr. 0 400 874 213

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,10-2,30)

mm (from BDC)

		2.15-2.25				
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ¹ /100 strokes	cm ³ / 100 strokes	mm	cm³/100 strokes	мm
1	2	3	4	2	3	6
1050	11,3+0,	7,9 - 8,0	0,3(0,45			
325	6,4-6,6	0,9 - 1,5	0,2(0,4)			
323	0,4-0,0	0,, 1,5	0,2(0,1)	i		
1			<u> </u>	I		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper	rated speed		Intermediate rated speed			4 Lower	rated spe	ed	3 Torque control	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	ev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
lose	800	0,3-1,0				ca.26	325	6,0	1050	11,3-
	X :	4,5						min.19,0 6,4-6,6	500	11,4 11,3-
\$a.63	1090- 1135- 1300	100 = 10,3 165 = 4,0 0,3-1,7					455-5		375	11,5 11,5- 12,1

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-lo	ad stop	6 Rotational- speed limitat.	el delivery tracteristics	Starting Idle	fuel delivery	5a Idle stop		
Test oil temp rev/min 1	0 40°C (104°F) cm³/1000 strokes 2	Note: changed to rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes	rev/min 8	Control rod travel mm
1050	79,5 - 80,5 (77,5 - 82,5)	-	600	69,5 - 72,5 (67,5 - 74,5)		19,0-21,0 mm RW	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

Testoil-ISO 411

Test Specifications Fuel Injection Pumps 1 MPP 001/4 !1B 5,7 u 2 and Governors

5. Ed.tion

PES 6 A 90 D 410 RS 2568

ROV 300-1490 AB 1066-1 DL (1) RSV 350-1400 AO B2075 L (2)

supersed 5 81 companyDaimler-Benz engine ON 352A

AOC 2075 L Set idle-speed auxiliary spring at 2 mm control-rod travel(1) 127 kW (173 PS)

(2) 123 kW (167 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,05-2,15 (2,00-2,20) Port closing at prestroke mm (from BDC)

Rotational speed ray/min		Fuel delivery 1 cm³/100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delixery C cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1400	12,9-13,	0 7,7 - 7,8	0,3(0,45)	13,0-13,	1 7,5-7,7	n = 1380
300	8,9- 9,	1 1,1 - 1,7	0,2(0,4)	8,9- 9,	1 0,7 - 1,3	n = 350
800/500		C, 4-5	0,4(0,55)			
		<u> </u>				<u> </u>

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

1066-1 DL

Upper rated :	speed			Intermediate	rated sp	eed	Lower rated	speed		Sliding sleeve travel	
Degree of deflection of control	rev/min Control rod travel	Control rod travel	(18)	Degree of deflection of control		Control rod travel	Dégree of deflection of control		Control rod travel	1)	1
lever	mm	rev/min	(28)	lever	rev/min	mm (4)	lever	rev/min	mm (3)	rev/min	mm
1	2	3		4	5	6	7	8	9	10	11
max.	1400	15,2-17	,8	•	•	-	ca.16	300	min.10,5 8,9-9,1 800=2,0	300 490 1450	1,3 2,5-2,7 8,6
ca.62		1440-14 1590-16 0 - 1	20				3 00-47)			

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ros Test oil ten rev/min		limitation intermediate speed	high idle s	very characteristics 5a poeed 5b cm²/1000 strokes	Starting Idle switchli rev/min 6	• •	Torque- travel rev/min	Control 5 Control rod travel mm
LDA 1400	0,7 bar 77,0 - 78,0 (75,0 - 80,0)	1440-1450*	LDA 800 LDA 500	0,7 bar 81,5 - 83,5 (79,5 - 85,5) 0 bar 49,5 - 51,5 (47,5 - 53,5)	100 100-	72,25-82,25 220 (80-240)	1450 1075	12,9-13,

Checking values in brackets

* 1 mm !ess control rod travel than col. 2

Testoil-ISO 4113

B. Governor Settings

	r rated speed Control rod travel mm					Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Contro: rod travel mm	3 To	rque control Control rod travel mm
loose	800 x	0,3-1,0 = 2,75				ca. 19	350 350	8,5 8,9-9,1	1380 1050	13,0-13,1 13,4-13,6
ca.52	12,0 4,0 1640	1420 - 1430 1480 - 1500 0,4 - 1,7					430-49	0 =2,0	500	13,6-13,7

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	ill-load stop	6 Rotational- speed limitat. 3a Fuel delivery characteristics			Starting f	uel delivery 5	4. idle stop	
i	emp. 40°C (104°F) cm³/1000 strokes 2	Note. changed to) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9
1380	75,5 - 76,5 (73,5 - 78,5)	1420-1430*	900	77,5 - 80,0 (75,5 - 82,0)	100	90,0-100,0 (87,0-103,0) =17,0-17,4 mm RW	-	-

Checking values in brackets

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	Control rod travel
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
2568 with 1066-1D	0,7		14,0 - 14,1
		0,45	13,4 - 13,5
		0,15	12,1 - 12,3
		0	11,6 - 11,7

Notes:

(1) when n =

gauge pressure =

bar (= maximum full-load control rod travel)

En

^{* 1} mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 MB 5,7 o 1 5. Entior

En

PES6A90D410RS2293

RSV575-1250A1B618L

Komb.-Nr. 0 400 876 192

supersedes5.84

company Daimler-Benz

engine OM 352

88 kW (120 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,15-2,25 Port closing at prestroke (2,10-2,30) mm

Port closing at prestroke

mm (from BDC)

Rotational speed	Control rnd travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ¹ /100 strokes	cm³/ 100 strokes	mm	cm³/100 strokes	mm
1	2	3	4	2	3	6
1230	10,5+0,	6,1-6,2	0,3(0,45)			
575	6,4-6,6	1,1-1,7	0,2(0,4)			
I				Ī		
		ļ				
į	1	Ì				

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper	rated speed		Intermediate	rateci spe	ed	4 Lowe	r rated spe	ed	(3) To:	que control
Degree of deflection of control lever	rev/min	Control rod travel	Degree of dellection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	Control rod travel
1	2	3	4	5	6	7	8	9	10	11
lose	800	0,3-1,0	-	-	-	ca. 31	575	6,5	-	-
	X=	5,0						min.19,0 6,4-6,6		
Ca.62 ⑤	9,5 4,0 1350	1250-1260 1275-1295 0,3-1,7						630=2,0		

Set idle-speed auxiliary spring at 2.0 mm control-rod travel, then 1/2 turn back.

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-lo	pad step	6 Rotational- speed limitat.		el delivery tracteristics	Starting Idle	fuel delivery	(5a) Idle stop		
Test oil temp. 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes	rev/min 8	Control rod travel mm	
1230	61,0-62,0 (59,0-64,0)	1250-1260*	-	-	100	78,0-88,0 (75,0-91, 0	-)	-	

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications

Fuel Injection Pumps (1) and Governors

WPP 001/4 MB 5,7 u 5 2. Edition

Ē٨

PES 6 A 90 D 410 RS 2569 Komb.-Nr. 0 400 846 480

RQV 300-1400 AB 1055-2 DL

supersed 81
company Daimler-Benz
engine OM 352

OM 352 88.3 kW (120 PS)

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	stroke	(2.20-2.40)	mm (from BDC)			
Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	100 strokes	mm	cm³/100 strokes	mm
1	2	3	4	2	3	6
1400	9,8-9,9	5,5 - 5,6	0,3(0,45)			
300	8,2-8,4	0,9 - 1,5	0,2(0,4)			
	<u> </u>					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed		Sliding s	ieeve travel
deflection	rev/min Control rod travel mm 2	Control rod travel mm rev/min 28	Degree of deflection of control lever	rev/min 5	Control rod travel mm (4)	Degree of deflection of control lever	rev/min 8	Control rod travel mm 3	rev/min 10	1
max.	1400	15,2-17,8				ca. 24	300 100	8,3 min.9,8	300 675	1,2+0,1 3,9+0,2
ca. 64	8,8 4,0 1630	1440-1450 1530-1560 0 - 1,0				3 a)	300 550-0			8,0-8,1

Torque control travel a =

mm

C. Settings for Fuel injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed		rery characteristics (5a)	Starting Idle switchin		Torque- leval	Control rod
rev/min	cm ³ /1000 strokes	rev/min 4	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	trave! mm
1	2	3	4	5	6	7	8	9
1400	54, 5 - 55, 5 (52, 5 - 57, 5)	1440-1450*	500	46,5 - 49,5 (44,5 - 51,5)		73,0=83,0 (70,0=86,0) = 14,8=15,2 mm RW	1000 630	9,8-9,9 10,1-10, 10,8-11, 11,0-11,
			Set	stop at 3 -	3 , '5 m		1	

Checking values in brackets

* 1 mm less control rod travel than ϕ ol. 2

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 SCA 11.0 u 5. Elition

PE 6 P 120 A 720 RS 7001

ROV 200-1000 PA 539

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015

5.83 supersedes Scania company: DS 11 15

Komb.-Nr. 0 402 646 801

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers.

D15 FD 052: 4,40-4,50 A. Fuel Injection Fump Settings ab FD 141: 5,0-5,1

(4,35-4,55)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	13,2+0,1	19,9-20, 1	0,6 (0,9)			3,3 ± 0,1 **
225	4,44,6	1,3-1,7	0,3(0,6)			(3,0 - 3,5)

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed	•	Stic	ding s	leeve travel
Degree of deflection	rev/rnin Control	Control rod ta	Degree of deflection		Control rod travel	Degree of deflection		Control rod travel			1
of control lever	roditravel mm	rev/min (28)	of control lever	rev/min	mm (4)	of control lever	rev/min	mm (3) rev	/min	mm
1	2	3	4	5	6	7	8	9	10		11
max.	1000	15,2-17,8	-	-	-	ca. 10	100	min. 5	,9 1	150	0,5-0,8
ca. 60/	12,2	1040-1050		Ì			225	4,4-4,	6 4	130	3,0-3,5
	4,0	1150-1180					310-	370=2,0) 7	720	5,0-5,2
	1300	0 - 1,0		l	j				10	000	7,7
					<u> </u>	(3a)					

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roo Test oil ten		Rotational-speed 2b timitation intermediate speed		very characteristics 5e poed 5b	Starting Idle switching	. •	Torque- travel	Control cod
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
<u>'</u>	2	3	4	5	6	7	8	9
LDA	0,9 bar	1040-1050*	LDA	0,9 bar	100	240,0-290,0	-	- '
700	199,0-201,0 (196,0-204,0)		1000 LDA 500	193,0-201,0 (191,0-203,0 0 bar 160,0-164,0 (158,0-166,0) ,	bei 20,0 - 21,0 mm RW		

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

SCA 11,0 u - 2 -

Testatn =

500

rev/min decreasing pressure - in bar gauge pressure

300			
Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 6 PRS 7001	0,42		12,8 - 12,9
+PA 539		0,90	13,2 - 13,3
		0	11,6 - 11,7
		0,29	11,9 - 12,1
٠			

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

SCA 11,0 y 1

SUPPLEMENTARY INFORMATION

- Checking and adjustment without a ROBO diaphragm
- For combination with letter index see VDT-I-400/116
- For sealing, see VDT-I-400/117
- Test specifications approved by Scania on 18.8.1983
- Start of fuel delivery-engine: 17° before TDC
- Firing sequence, engine : 1-5-3-6-2-4
- ** Due to smoothing of the sealing edge, the spring tension with a new delivery-valve holder must be adjusted 70 2,9 3,1 mm.

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 SCA 11,0 u8 3. Edition

R0V200-1000 PA 612 PE 6 P 120 A 720 RS 7001 Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015

supersede 5.83 _{company}Scania DN 11 06, 07 **BUS-Motor** Komb.-Nr. 0 402 646 807

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings
ab FD 141: 5,0-5,1
Port closing at prestroke (4,95-5,15) mm bis FD 052: 4,4-4,5 mm mm (from BDC) (4.35-4.55)(4.95-5.15)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod trave! mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
600 225	11,3+0, 4,4-4,6	15,7-15,9 1,1-1,5	0,6(0,9) 0,3(0,6)			3,3 [±] 0,1 (3,0-3,5)

Adjust the fuel delivery from each outlet according to the values in [

mm

B. Governor Settings

Upper rated s	speed			Intermediate	rated sp	eed		Lower rated	speed		0	
deflection of control	rev/min Control rod travel mm 2	rravel (Degree of deflection of control lever	rev/min 5	Control r travel mm 6	od ①	Degree of deflection of control lever 7	rev/min 8	Control rod travel		mm
max.	1000	15,2-17,	8	-	•	-		ca.10	100	min.5,9		0,5-0,8
ca. 59		1040-105 1115-114 0-1,0	5						1	4,4-4,6 370=2,0		3,0-3,5 5,0-5,2 7,7
								39				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter	elivery d stop np. 40°C (104°F) 2	Rotational-speed 2b limitation stermediate speed	Fuel definition	rery characteristics 5a	Idle	fuel delivery 6	Torque- travel	Control rod
rev/min 1	cm ³ /1000 strokes	rev/min 48	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travei mm
6 00	157,0-159,0 (154,0-162,0)	1040-1059*	1000	154,0-162,0 (152,0-164,0	100	240,0-290,0 = 20,0- 21,0 mm RN	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

11.84

Geschäftsbereich KH. Kundendienst. Kfz-Ausrüstung C by Robert Bosch GmbH. D-7 Stuttgart 1, Positisch 50 Printed in the Federal Republic of Germany Imprime en République Fédérale d'Aliemagne par Robert Bosch GmbH.

SUPPLEMENTARY INFORMATION

- ~ Checking and adjustment without a ROBO diaphragm
- For combination with letter index see VDT-I-400/116
- For sealing, see VDT-I-400/117

. •

- Test specifications approved by Scania on 18.8.1983
- Start of fuel delivery-engine: 18° before TDC
- Firing sequence, engine : 1-5-3-6-2-4
- ** Due to smoothing of the sealing edge, the spring tension with a new delivery-valve holder must be adjusted 70 2,9 3,1 mm.

Testoil-ISO 411

Test Specifications Fuel injection Pumps 2 and Governors

WPP 001/4 MB 14,5 e

6. Edition

PE8P110A320 LS 3802

RQ 300/1150 PA 187-3 RO 300/1150 PA 187-5

9.83 supersedes

Daimler-Benz company

OM 422 engine:

206 kW (280 PS)

Komb.-Nr. 0 401 848 708 1-8-7-2-6-3-5-4 je 45° -0.5° (-0.75°) Note VDT-I-420/114

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(3.95-4.15)

mm (from BDQW = 9.0-12.0 mm

Rotational speed		Fuel delivery (1)	Difference cm ³ /	Control rod travel	ohne RSD (2)	Spring pre-tensioning (torque-control valve)
rev/min	mm 2	cm ³ /100 strokes	100 strokes	mm 2	cm ³ /100 strokes	mm 6
1150	12,3+0,1	12,7-12,9	0,4(0,8)	11,7+0,	13,3-13,5	
300	8,0-8,1	1,5-2,1	0,4(0,7)	7,9-8,	1,5-2,1	
600	12,3+0,1	C, Sp. 4 u. 5	0,8(1,1)	11,7+0,	C, Sp. 4 u.5	
				,		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Test specifications Control rod Test specifications Test specifications Test specifications Test specifications Test specifications Test specifications Test	Checking of slider Full-load speed FRG check T Setting point			•	•	nifications (A)	Idle spec	-		ciliantians (E)	Torque control		
650 13,0-14,0 650 13,5 11,3 1195-1210 300 8,1 100 min.10,2 300 8,0-8,2 1350 0 - 1,0 420-460= 2,0	1	Control rod travel		Control red travel	Control rod travel rnm) 		Central rad travel		Control rod travel mm		travel mm	
	650	13,0-14,0	650	13,5		1235-1265		8,1	300 420-4	8,0-8,2 60= 2,0	•	-	

Torque-control travel

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop (3a)	Fuel deliv	ery characteristics 3b	Starting f	ruel delivery
rev/min 1	cm ³ /-1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes	rev/min 6	cm ³ /1000 strokes/ mm
1150 (1)	127,0-129,0 (124,0-132,0)	600	600	118,0-122,0 (115,0-125,0)	100	130,0-150,0

Checking values in brackets

11.84

67

B. Governor Settings

Checkin	g of stider	Full load:	speed re	gulation	_	idle spe	ed regula	stion	_	Torque	control
PRG che	Control rod travel	Setting po	Control red travel mm	Test spec Control rad travel mm	cifications (4) rev/min	Setting p	Control rod travel	Test spe	1	rev/min	
1	2	3	4	5	6	7	8	9	10	11	12
650	13,0-14,0	650	13,5		1195-1210 1230-1260 0-1,5		8,1		min. 10,2 8,0-8,2 60 =2,0 max. 1,8	-	-
		L	Ĺ	<u> </u>	l	l	 	105-13	210 min	L	1 mm loss contr

Torque-control travel on flyweight assembly dimension a

Speed regulation Al

less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	felivery on control lever mp 40°C (104°F)	Control rod stop	Fuel deliv	ery characteristics	Starting f	uel delivery d Contrar
rev/min 1	cm ¹ /- 1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 stroke: 5	rev/min	rad travel cm 1/1000 strokes / mm 7
1150 (2)	132,5-134,5 (50,0-137,0)	600	600	109,5-115.5 (106,5-118,5)	100	130,0-150,0 (126,0-154,0)
					1	

Checking values in brackets

Testoil-ISO 4113

B. Governor Settings

1	Checking of slider Full-load speed r PRG check TSetting point				cifications (4)	Idle spec	•		cifications (5)	Torque control		
	Control rod travel mm	rev/min	Control rod travel mm	Control rod travel rmm	rev/min	rev/min	1	rev/min			Control rod travel mm	
		3			6		8	9	10			

Torque-control travel on flyweight assembly dimension as

mm

Speed regulation At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop 3	Fuel deliv	ery characteristics	Starting I	luel delivery ed Control
rev/min	cm ¹ /-1000 strokes	rev/min	rev/min	cm³/-1000 strokes	rev/min	red travel cm ¹ /1000 strokes / mm
				÷		
					:	

En Checking values in brackets

①

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

VDT-WPP 001/4 MAC 11,0 x 3 2. Edition

US-PES6P110A720RS6006

US-RQV300/600-1050PA621-2K

supersede 83 company Mack engine: EME 6 - 250 250 PS

Komb. - Nr. 9 400 231 155 PLE-Maß = 0.740" - 0.820"

PLE-Man = 0,740 - 0,020

Note VDT-I-MAC 002 !

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

3.2 -3.3

Port closing at prestroke (2 15-2 35 mm (from BDC

Rotational speed	travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm ³ /1 00 strokes 3	100 strokes	mm 2	cm ³ /100 strokes	mm 6
1050	11,9+0,1	18,9 - 19,1	0,4			
300	5,3-5,5	1,4 - 2,4	0,4		 	
٠			1	· I	ŀ	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	e rated sp	eed		Lower rated	speed			Sliding sleeve travel		
deflection of control	rev/min Control rod travel mm 2	Oontrol rod travel mm rev/min 28	of control	rev/min 5	Control root travel mm	•	Degree of deflection of control lever 7	rev/min	Control root travel mm (9	, ③	rev/min	mm 11	
max.	1120	15, 2-17, 8	-	-	-		ca.20	250	9,8-11	, 3	-	-	
ca. 62	10,9 4,0 1240	1090-1100 1165-1195 0 - 1,0					(3a)	300 400 690-	7,9-8, 3,8-5, 750 = 2,	2			

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roc Test oil ten		Rotational-speed initiation intermediate speed	\smile	Fuel deliv	very characteristics (5e)	Starting idle switchin		Torque-control 5 travel Control ro	
rev/min	cm ³ /1000 strokes	rev/min	(4)	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
1	2	3		4	5	8	7	8	9
1050	188,5-190,5	1090-1100	Ħ	850	197,5-200,5	100	110,0-170,0	1050 950	11,9 11,9+0,1
				630	210,5-213,5 PLE				12,0+0,1 12,2+0,1
				800	134,0-142,0	,		1 1	12,6+0,1 12,2+0,1
								300	12,2.0,1

Checking values in brackets

* 1 mm less control rod travel than col. 2

WPP 001/4 IHC 5,8q 1

4.Edition

di.

: com

VA 6/110 H 1100 CR 180-1 CR 180-1 P

0 460 316 018

Nozzle-and-holder assembly

supersed 83 companIHC engine DT 358 "1246"

1 688 901 020 (172 + 3 bar)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers Test Intructions and Test Equipment

VDT WPP 161/4 B Pre-setting see reverse side

Setting of the pointer at a stroke af 1.0 mm in relation to outlet "A".

1. Settings	rev/min	Settings		Charge air press kp/cm	Difference in delivery cm."
1 1 Timing device travel	800	5,7-6,7	mm	0	
1.2 Supply pump pressure	800	4,8-5,3	kp/cm ²	0	
1.3 Full load delivery without charge air pressure	800	77,0-79,0	cm 1/1000 strokes	0	
Full-load delivery with charge air pressure	800	85,5-86,5	cm ¹ /1000 strokes	0,4	2,5
1 4 Idle speed regulation	450	14,5-20,5	cm ¹ /1000 strokes	0	3,0
1 5 Start	100	mind. 95, 0	cm 1/1000 strokes	0	i 1
1.6 Full load speed regulation	1180	41,0-49,0	cm ³ /1000 strokes	0,4	

2.1 Timing device	rev/min	200-350(170-380)	400	800	900-1050
	mm	Beginn	1,0-2,0(0,7-2,3)	(5,4-7,0)	6,9-7,6(6,6-7,9)
22 Supply pump	rev/min	200		800	1100
	kp/cm	1,3-1,8(1,1-2,0)		(4,6-5,5)	6,0-6,4(5,8-6,6)
Overflow delivery	rev/min	500			1100
	cm 1/10 s	55-100(40-110)			55-100(40-110)

23	Fuel	deliveries
----	------	------------

Speed control lever	Delivery lever	rev/min	cm ¹ /1000 strokes	Charge air pressure kp/cm ²
End stop	Full	1210-1280 (1190-1300)	0	0,4
		1180 1100-1130	(40,0-50,0) Beginn	0,4
		1050	86,5-89,5 (85,5-90,5)	0,4
		800	(85,0-87,0)	0,4
		800	(76,0-80,0) 78,5-81,5(77,5-82,5)	0
•		500	78,5-81,5(77,5-82,5)	0,2
	Stop	1100	0	
Idle stop	Full	530-580	0	
•		(510 600) 450	(13,5-21,5)	
End	Start	100	mind. 95, 0	
stop	ł	220-320		

Angle to the stop plate	Pre-setting dimensions
Pump " = 25 ± 4° \$ = 40 ± 8° \(\)	Pump Dimension → 24,6 mm

Stop check at n = 70 min/1 LDA start: 0.04 - 0.07 End : 0.21 - 0.25

WPP 001/4 IHC 5,8g 2

3. Editie

En

[estell-150 4113

VA 6/110 H 1100 CR 180 2 0 460 316 022 DHK: 1 688 901 020/172+3 bar supersedes IHC company engine DT 358

Nozzle-and-holder assembly 1 688 901 020 (172 + 3 bar)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers Test intructions and Test Equipment VDT WPP 161/4 B

0,5 \pm 0,02 (\pm 0,04) Setting of the pointer at a stroke af 1,0 mm in relation to outlet "A".

o outlet "A".			Pre-setting see reve	rse side
1. Settings	fev/min	Settings	Charge air press	Difference in delivery cm
1.1 Timing device travel	800	5,7-6,7 _{mm}	0	
1.2 Supply pump pressure	800	4,8-5,3 kp/cm	n· 0	
1.3 Full-load delivery without	800 ″	77,0-79,0 cm'/1	0000 strokes	1
charge air pressure Full-load delivery with charge air	800	85,5-86,5 cm ¹ /1	000 strokes 0, 4	2,5
pressure 1 4 Idle speed regulation	450	14,5-20,5 sm1/1	000 strokes	3,0
1 5 Start	100	mind. 95,0 cm ¹ /1	000 strokes	
1.6 Full-load speed regulation	1180	41,0-49,0 cm/1	000 strokes 0, 4	

2. Test Sp	ecificat	Cions Checking values in bi	rackets		
2.1 Timing device	rev/min	200-350(170-380)	400	800	900-1050
·	mm	Beginn	1,0-2,0(0,7-2,3)	(5,4-7,0)	6, 9-7, 6(6, 6-7, 9)
22 Supply pump	rev/min	200		800	1100
	kp/cm ²	1,3-1,8(1,1-2,0)		(4,6-5,5)	6,0-6,4(5,8-6,6)
Overflow delivery	rev/min	500			1100
Overnous denvery	cm 1/10 s	55-100(40-110)			55-100(40-110)
	1				

23	Fuel	deliverie	S

Speed control lever	Delivery lever	rev/min	cm 1/16/00 strokes	Charge air pressure kp/cm
End stop	Full	1210-1280 (1190-1300)	0	0,4
		1180 1100-1130	(40,0-50,€ Beginn	0) 0,4
		1050 800	86,5-89,5 (85,5-90,5 (85,0-87,0	
		800 500	(76,0 -3 0, 78,5-81,5 (77,5-82,	, · · · ·
	Stop	1100	0	
tdle stop	Full	530-580 (510-600) #50	(13,5-21,5	5)
End	Start	100	mind. 95, 0	
stop		220-320		

Angle to the stop-plate	Pre-setting dimensions
Pump a = 25 ± 4° B = 40 ± 8° A	Pump Dimension ₹ 0,60 mm Dimension ₹ 24,60 mm

Stop check at n = 70 min/1

LDA start: 0.04 - 0.07

End : 0.21 - 0.25

2. Test Specifications checking values in brackets (

3. Edition

Testoil-ISO 4113

VE 6/11 F 1800 L 18-3

Overflow temperature 45° C

ov foresedes

company: TD 40 A (93 kW)

0 460 416 027

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

±0,02 (0,04)

see VDT·W·460/

1. Settings	Rot. speed Settings rev/min			Charge-air press bar (kgf/cm²)	Difference in delivery cm ³	
1.1 Timing device travel	1500	3,6-4,0	mm	0,75		
1.2 Supply-pump pressure	1500	6,6-7,2	bar (kgf/cm²)	0,75		
1.3 Full-load delivery with charge air pressure	1500	57,0-58,0	cm ³ /1000 strokes	0,75	3,0(4,0)	
Full-load delivery without charge-air pressure	500	40,0-42,0	cm ³ /1000 strokes	0		
1 4 Idle regulation	325	8,0-12,0	cm ³ /1000 strokes	0	3,0(4,0)	
1.5 Full-speed regulation	2000	19,0-25,0	cm ³ /1000 strokes	0,75		
1.6 Start	100	min. 60,0	cm ³ /1000 strokes	0		
1.7 Load-dependent port-closing	_					

2.1 Timing device	n = rev/min	1100	1500	1800	
LDA=0,75 bar	mm	1,6-2,4(1,3-2,7)	(3,1-4,5)	4,5-5,3 (4	,2-5,6)
2.2 Supply pump LDA=0,75 bar	n = rev/min bar (kgf/cm²)	400 2,5-3,1		1800 7,7-8,3	
Overflow delivery	n = rev/min cm³/10 s	500 55-138 (40-153)		1800 55-138 (40	
2.3 Fuel deliveries		-, , I		3. Dime	nsions
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes	Charge-air press. bar (kgf/cm²)	Designation	for assembly and adjustment mm
End stop	2100 2000 1900 1800 1500 *500	max. 2,0 (17,5-26,5) 38,0-48,0 (38,0-48,0) 52,5-55,5 (51,3-56,6) (54,8-60,1) 46,0-48,0 (43,6-50,4) (37,6-44,4)	0,75 0,75 0,75 0,75 0,75 0,28 0	K KF MS SVS A XK B XL	- 5,9-6,2 1,2-1,4 max. 4,7 20,2-22,2 10,4-16,4
die stop	400 325	max. 3,0 5,5-14,5			d-pressure
End stop	110 220	min. 60 max. 40		= 4,0 m Correct	ator stroke m ion at the ng nut. (46)
i	max. cut-in voltag	xxx min. 10.V rated voltage 12V.			

Bosch

Geschäftsbereich KH. Kundendienst. Kfz-Ausrustung.

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WPP 001/4 MAN 5,6 b

2. Edition

VE 6711 F 1500 R 49 0 460 416 008

Overflow temperature 45° C

Secuing of the pointer at a stroke af 1,0 mm in relation to outlet "A".

company D 0226 M

All test specifications are valid only for Bosch Fuel injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

0,6

mm = 0.02(0.04) mm

see VDT-W-460/...

1. Settings	Rot speed rev/min			Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1000	6,0-6,4	mm	· · · · · · · · · · · · · · · · · · ·	
1 2 Supply-pump pressure	1000	5,7-6,3	bar (kgf/cm²)		
1.3 Full-load delivery with	-	-	cm ³ /1000 strokes		
charge-air pressure Full-load delivery without	1000	63,5-64,5	cm ³ /1000 strokes		2,5 (4,0)
charge-air pressure 1.4 Idle regulation	300	8,0-12,0	cm³/1000 strokes		2,5 (4,0)
1.5 Full-speed regulation	1550	52,0-58,0	cm ³ /1000 strokes		
1.6 Start	100	min. 60,0	cm ³ /1000 strokes		
1.7 Load-dependent port-closing	-				

2.1 Timing device	n = rev/min	600	1000	1	400
E. C. Villing Gerico	mm	3.8-4,6(3,5-4		8,7-9,5 (
2.2 Supply pump	n = rev/min bar (kgf/cm²)	400 3.2-3.8		1500 7,3-7,9	
Overflow delivery	n = rev/min cm ³ /10 s	500 55-110 (40-12	25) 55	1500 -110 (40-125)	
2.3 Fuel deliveries				3. Dimer	for assembly
Speed control lever	Rot speed rev/min	Fuel delivery cm ³ /1000 strokes	Charge-air pre- bar (kgf/cm²)	SS Designation	and adjustment mm
End stop	1680 1630 1550 1500 1000 600	69.5-71,5 (67.	3-66,7)	K KF MS SVS	- 5,7-5,9 1,4-1,6 max. 4,6
switch-off	1500	0		xx xk xk xl	18,6-20,6 9,0-12,8
idle stop	400-470 300	0 (5,5	-114,5)	Observations	1
End stop	370 470			Pulling magnet	electro-
2 4 Solenoid	max. cut-in voltage	xxx min. 20,0 rated voltage 12		_	

46

WPP 001/4 IBE 4,0a 3. Edition

VE 4/12 F 1300 R 103

Overflow temperature 45° C

supersedes company:

engine:

1.84 Iberica T 4.236

0 460 424 004

DHK: 1 688 901 020

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

see VDT-W-460/...

Pre-stroke setting

0,3

ke	setting	0,5	mm
			

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1000	4,0-4,4	mm	0,8	
1.2 Supply-pump pressure	1000	5,5~6,1	bar (kgf/cm²)	0,8	
1.3 Full-load delivery with	500	66,0-67,0	cm ³ /1000 strokes	0	
charge-air pressure Full-load delivery without	800	94,0-95,0	cm³/1000 strokes	û , 8	4,0 (4,5)
charge-air pressure	300	6,0-12,0	cm ³ /1000 strokes	0	3,5 (4,5)
1.5 Full-speed regulation	1400	64,0-72,0	cm³/1000 strokes	0,8	
1.6 Start	100	min. 70,0	cm³/1000 strokes	0	
1.7 Load-dependent port-closing	-	-			

2. Test Spe	cifications	checking values in brackets ()	
2.1 Timing device	n = rev/min	500	1000	1300
LDA=0,8 bar	mm	0,4-1,2(0,1-1,5)	(3,5-4,9)	5,6-6,4 (5,3-6,7)
22Supply pump	n = rev/min	500		1300
LDA=0,8 bar	ba: (kgf/cm²)	3,3-3,9		6,7-7,3
Overflow delivery	n = rev/min cm ³ /10 s	500 55-110(40-125)		1300 55-110(40-125)

2.3 Fuel deliveries				3.
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes	Charge-air press. bar (kgf/cm²)	De
End stop	1640 1580 1400 1300 800 *800 500	max. 1,0 max. 5,0 (63,0-73,0) 84,5-87,5(83,0-89,0) (91,5-97,5) 91,0-92,0(87,7-95,3) (62,7-70,3)	0,8 0,8 0,8 0,8 0,8 0,42	
switch-off				
Idle stop	430 370 300	max. 1,0 max. 3,0 (4,0-14,0)		Ob:
End stop	110 210	min. 70,0 max. 70,0		
2.4 Solenoid	max. cut-in volta	ee xxxx min. 10,0 v rated voltage 12V.		

3. Dimer	1SIONS for assembly and adjustment
Designation	mm
к	
KF	5,1-5,4
MS	1,1-1,35
svs	5,0
ΑXK	20,2-22,2
[₽] XL	8,6-11,9
Observations	
	d-pressure ator stroke

Correction at the adjusting nut. (46)

BOSCI

WPP 001/4 BMW 2,4 d

1. Ec.tion

VE6/10F2400 R 117 0 460 406 023

Pre-stroke setting

Overflow temperature 45° C

company BMW-USA

engine M21D24

DHK: 1688 901 022/130 bar

Test pressure line 6x2x450/1 680 750 073

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

see VDT-W-460/

1. Settings	Rot. speed rev/min	Settings		Charge-air press bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1500	4,5-4,9	mm	1,050	
1.2 Supply-pump pressure	1500	6,1-6,5	bar (kgf/cm²)	1,050	
1.3 Full-load delivery with	1500	39,5-40,5	cm³/1000 strokes	1,050	max. 3,0
charge-air pressure Full-load delivery without	500	21,5-22,5	cm³/1000 strokes	Q Q	max. 3,0
charge-air pressure 1.4 Idle regulation	400	6,0-10,0	cm³/1000 strokes	0	max. 3,0
1.5 Full-speed regulation	2600	17,0-23,0	cm ³ /1000 strokes	1,050	
1.6 Start	250	35,0-37,0	cm³/1000 strokes	0	
1 7 Load-dependent port-closing	-				

2. Test Spec	ifications	checking values in brackets ()	
2.1 Timing device	n = rev/min mm	Please note in	structions on sheet 2
2.2 Supply pump	n = rev/min	500	2300
LDA=1,050 bar	bar (kgf/cm²)	3,2-3,6	8,1-8,5
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138(40-153)	2400 55-138(40-153)
	L	<u> </u>	

	1	1	
23 Fuel deliveries			
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes	Charge-air press bar (kgf/cm²)
End stop	2700 2600 2400 1500	7,0-13,0 (6,0-14,0) (16,0-24,0) 89,5-41,5(37,9-43,1) (37,4-42,6)	1,050 1,050 1,050 1,050
	*750	31,5-32,5(29,4-34,6)	0,5
	500	(19,0-25,0)	0
switch-off			
Idle stop	450 400	max. 3,0 (4,0-12,0)	
	* * 850	16,0-18,0	
Please note instructions	100	27,0-37,0	
on sheet 2.	400	28,0-38,0	
2.4 Solenoid	max. cut-in volt	19,2-23,3 age xxx min. 10 V	
	riget votigee	rated voltage 12V.	_

3. Dimer	nsions for assembly and adjustment mm		
К	3,3		
KF	6,4-6,5		
MS	1,4-1,6		
svs	3,4		
AXK	20,2-22,2		
вХГ	9,5-12,8		
Observations			

- * Manifold-pressure compensator stroke
- $= 7,5 \, \text{mm}$
- **Adjust EGR with gauge

BOSCH

2.1 <u>Timing device</u>

n = min/1	LDA	Solenoid valve	mm
*** 500	1,050 bar	12 V	1,9-2,9 (1,7-3,1)
750	1,050 bar	0 V	1,6-2,4 (1,6-2,7)
***1000	1,050 bar	12 V	3,7-4,7 (3,5-4,9)
1500	1,050 bar	0 V	(4,0-5,4)
2300	1,050 bar	0 V	7,3-8,1 (7,0-8,4)

*** Testing the hydr. cold-start accelerator

Exhaust gas reciculation driver	850
Start-Inspection point	100
Limit stop	400
	480

WPP 001/4 CUM 3,9 a 4

1. Edition

VE 4/12 F 1050 R 123-4

Overflow temperature 45° C

0 460 424 010

DHK: 1 688 901 016 / 207 + 3 bar

supersedes umm ins company4 BT-390

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

see VDT-W-460/

mm = 0,02 (0,04) 0,3 Pre-stroke setting

1. Settings	Rot speed rev/min	Settings	2	Charge air press	Difference in delivery cm ³
	900	2,3-2,7		1.0-1.1	
1 1 Timing device travel	900	4,5-5,1	mm	İ	
1.2 Supply-pump pressure	300	4,5 5,1	bar (kgf/cm²)	i	
1 3 Full-load delivery with	-	-	cm³/1000 strokes		
charge-air pressure	900	85,0-86,0			4,0 (4,5
Full-load delivery without charge-air pressure	375	18,5-24,5	cm ¹ /1000 strokes		3,5 (4,5
1 4 Idle regulation	4420	46 0 54 0	cm ³ /1000 strokes		
1.5 Full-speed regulation	1120	46,0-54,0	cm ³ /1000 strokes		
1 6 Start	100	min. 97,0	cm³/1000 strokes		
1.7 Load-dependent port-closing	-	-			

2. Test Spe	cifications	checking values in brackets ()	
2 1 Timing device	n = rev/min mm	750	900 (1,8-3,2)	1050 3,0-3,8(2,7-4,1)
2 2 Supply pump	n = rev/min bar (kgf/cm²)	400 2,3-2,9	750 3,9-4,5	1050 5,2-5,8
Overflow delivery	n = rev/min cm ³ /10 s	400 55-138(40-153)	· • · · · · · · · · · · · · · · · · · ·	1050 55-138(40-153)

2 3 Fuel deliveries				
Speed control lever	Rot speed rev/min	Fuel delivery cm ³ /1000 strokes		Charge-air press bar (kgf/cm²)
End stop	1185 1120 1050 900 750 400		(45,0-55,0) (78,0-84,0) (82,5-88,5) (82,7-90,2) (82,7-90,2)	
switch-off				
End	450 375 300 130		(16,5-26,5) (42,0-52,0)	
stop 24 Solenoid	200	max. 85,0 xx min. 1	0 V	
_	1	rated voltage		

3. Dimer	19ions for assembly and adjustment
к	-
KF	5,2~5,5
MS	1,4-1,65
svs	4,0
A	
В	
	<u> </u>
Observations	
	eck electric device at '1

WPP 001/4 CUM 3,9 a 6 1. Edition

VE 4/12 F 1050 R 123-6

0 460 424 012

Overflow temperature 45° C

compan Cummins engine 4 BT - 390 Ind.

DHK: 1688 901 016/207 + 3 bar

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

mm + 0,02 (0,04)

see VDT-W-460/

1. Settings	Rot speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1 1 Timing device travel	900	2,3-2,7	mm		
1 2 Supply-pump pressure	900	4,5-5,1	bar (kgf/cm²)		
1 3 Full-load delivery with	-	-	cm ³ /1000 strokes		
charge-air pressure Full-load delivery without charge-air pressure	900	64,5-65,5	cm³/1000 stroķes		4,0 (4,5)
1.4 Idle regulation	375	18,5-24,5	cm ³ /1000 strokes		3,5 (4,5)
1 5 Full-speed regulation	1100	31,0-39,0	cm ³ /1000 strokes		
1 6 Start	100	min. 97,0	cm ³ /1000 strokes		
1 7 Load-dependent port-closing		_			

2. Test Spe	ecifications	checking values in brackets ()	
2.1 Timing device	n = rev/min	750 1,1-1,9 (0,8-2,2)	900 (1,8-3,2)	1050 3,2-4,0 (2,9-4,3)
2 2 Supply pump	n = rev/min bar (kgf/cm²)	500 2,8-3,4	750 3,8-4,4	1050 4,9-5,5
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138 (40-153)		1050 55-138 (40-153)

}	Ī	}	
2 3 Fuel deliveries	agai militara agai di 1 di 110 dan militara a 2000 - 12 mpandi 1000		
Speed control lever	Rot speed rev/min	Fuel delivery cm ³ /1000 strokes	Charge-air press bar (kgf/cm²)
End stop	1150 1100 1050 900 750 500	max. 1,5 (30,0-40,0) 59,5-62,5 (58,0-64,0) (62,0-68,0) 64,0-68,0 (62,2-69,7) 60,0-64,0 (58,2-65,7)	
switch-off			
End stop	450 375 300 130 200	max. 1,5 (16,5-26,5) 40,3-46,3 (38,3-48,3 min. 97,0 max. 85,0	
2 4 Solenoid	max. cut-in volta	rated voltage 12V.	

3. Dimer	ISIONS for assembly and adjustment mm
K	_
KF	5,2-5,5
MS	1,4-1,65
svs	4,2
A	
8	
Observations	<u> </u>
Stop che	ck electric

shutoff device at

375 min/1

Geschäftsbereich KM. Kundendienst. Kfz-Ausrustung.
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WPP 001/4 CUM 3,9 a 9 1. Edition

En

VE 4/12 F 1050 R 123-9 0 460 424 018 Overflow temperature 45° C

supersedes Cummins Cummins 4 BT-390 Ind.

DHK: 1 688 901 016/207 + 3 bar

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting 0,3 _____ + 0,02 (0,04)

see VDT-W-460/

1. Settings	Rot speed rev/min	Settings		Charge air press bar (kgf/cm²)	Difference in delivery cm ³
4.4.	900	2,3-2,7	mm		
1.1 Timing device travel	900	4,5-5,1	bar (kgf/cm²)	į	
1.2 Supply-pump pressure 1.3 Full-load delivery with	-	-	cm³/1000 strokes		
charge-air pressure Full-load delivery without	900	64,5-65,5	cm ³ /1000 strokes		4,0 (4,5)
charge-air pressure	375	18,5-24,5	cm ³ /1000 strokes		3,5 (4,5)
1 5 Full-speed regulation	1100	31,0-39,0	cm ³ /1000 strokes		
1.6 Start	100	min. 97,0	cm ³ /1000 strokes		
1.7 Load-dependent port-closing	-	-			

2. Test Spe	ecifications	checking values in brackets ()	
2 1 Timing device	n = rev/min mm	750 1,1-1,9 (0,8-2,2)	900 (1,8-3,2)	1050 3,2-4,0 (2,9-4,3)
2 2 Supply pump	n = rev/min bar (kgf/cm²)	500 2,8-3,4	750 3,8-4,4	1050 4,9-5,5
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138 (40-153)	55-138	1050 3 (40-153)
				2 Dimensions

2.3 Fuel deliveries			
Speed control lever	Rot. speed rev/min_	Fuel delivery cm ³ /1000 strokes	Charge air press bar (kgl/cm²)
End stop	1150 1100 1050 900 750 500	max. 1,5 (30,0-40,0) 59,5-62,5 (58,0-64,0) (62,0-68,0) 64,0-68,0 (62,2-69,7) 60,0-64,0 (58,2-65,7)	
Idle stop	450	may 1 5	
End stop	450 375 300 130 200	max. 1,5 (16,5-26,5) 40,3-46,3 (38,8-48,3) min. 97,0 max. 85,0	
2.4 Solenoid	max. cut-in volt	xxx min 10 V x rated voltage 12V.	
	LIST XXXXXXX	x rated voltage 12V.	

3. Dimensions			
Designation	and adjustment		
K	-		
KF	5,2-5,5		
MS	1,4-1,65		
svs	4,2		
A B			
Observations			
Stop chec shutoff d 375 min/1	k electric evice at		

BOSCH

<u>En</u>

VE 4/12 F 1250 R 123-10 0 460 424 019

Overflow temperature 45° C

supersedes

company engine

Cummins 4 BTA-390

DHK: 16 88 901 016/207+3 bar

All test specifications are valid only for Bosch Fuel-Injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

0,3

 $_{mm} \stackrel{+}{=} 0,02 (0,04)$

see VDT-W-460/

1. Settings	Rot. speed rev/min	Settings		Charge-air press bar (kgf/cm²)	Difference in delivery cm ³
1 1 Timing device travel	850	3,7-4,1	mm		
1.2 Supply-pump pressure	850	5,9-6,5	bar (kgf/cm²)		
1.3 Full-load delivery with	-	-	cm ³ /1000 strokes		
charge-air pressure Full-load delivery without	1100	97,5-98,5	cm ³ /1000 strokes		4,0 (4,5)
charge-air pressure 1 4 Idle regulation	375	22,0-28,0	cm³/1000 strokes		3,5 (4,5)
1 5 Full-speed regulation	1340	28,0-34,0	cm ³ /1000 strokes		
1 6 Start	100	min. 105,0	cm³/1000 strokes		
1.7 Load-dependent port-closing	-	_			

		checking values in brackets (,	
	n = rev/min mm	500 1,8-2,6 (1,5-2,9)	850 (3,2-4,6)	1100 4,6-5,4 (4,3-5,7)
2.2 Supply pump n = rev/min bar (kgf/cm²)		500 4,3-4,9	1100 6,7-7,3	
	n = rev/min cm³/10 s	500 55-138 (40-153)	55-1	1250 138 (40-153)

Speed control lever	Rot speed rev/min	Fuel delivery cm ³ /1000 strokes	Charge-air press bar (kgf/cm²)
End stop	1400 1340 1290 1250 1100 850 500	max. 2,0 (26,0-36,0) 68,0-76,0 (67,0-77,0) 91,5-94,5 (90,0-96,0) (95,0-101,0) 102,0-106,0(100,2-107, 90,5-94,5 (88,7-96,2)	
End stop	450 375 300 130 250	max. 2,0 (20,0-30,0) 45,0-53,0 (44,0-54,0) min. 105,0 max. 105,0	
2.4 Salenoid	max. cut-in voltage	xxxx min 10 V	l

3. Dimen	tor assembly
Designation	and adjustment mm
к	_
KF	5,2-5,5
MS	0,7-0,95
svs	3,0
A	
В	
Observations	
Stop chec shutoff c 375 min/1	

BOSCH

rated voltage 12V

46

WPP 001/4 OPE 2,3 g

1. Edition

VE 4/10 F 2100 L 155

Overflow temperature 45° C

company Ope 1 engine: 2,3 TD

0 460 404 036

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

- mo

see VDT·W·460/

1. Settings	Rot. speed rev/min	Settings		Charge-air press bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	1500	5,1-5,5	mm	0,8	
1.2 Supply-pump pressure	1500	5,5-6,1	bar (kgf/cm²)	0,8	
1.3 Full-load delivery with	1200	58,5-59,5	cm ³ /1000 strokes	0,8	3,0
charge-air pressure Full-load delivery without	500	36,0-37,0	cm³/1000 strokes	0	
charge-air pressure 1.4 Idle regulation	290	13,5-17,5	cm ³ /1000 strokes	0	3,0
1.5 Full-speed regulation	2425	15,0-21,0	cm³/1000 strokes	0,8	
1.6 Start	100	min. 48,0	cm ³ /1000 strokes	0	
1.7 Load-dependent port-closing	1500			0	

2. Test Spe	cifications	checking values in brackets ()	
2.1 Timing device LDA=0,8 bar	n = rev/min mm	800 1,5-2,3(1,2-2,6)	1200 3,4-4,0(3,0-4,4) (1500 2100 (4,6-6,0) 7,9-8,7(7,6-9
2.2 Supply pump	n = rev/min bar (kgf/cm²)	500 3,2-3,8	1200 4,9-5,5(0,8 bar)	2100 6,9-7,5(0,8 bar)
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138(40-153)	5	2100 (0,8 bar) 55-138 (40-153)
2.3 Fuel deliveries	18-4	15.11.		3. Dimensions tor assembly and adjustment

Speed control lever	Rot speed rev/min	Fuel delivery cm ³ /1000 strokes		Charge-air press bar (kgf/cm²)
End slop	2550 2425 2300 2100 1200 800 * 500		(13,5-22,5) (27,5-36,5) (44,8-50,1) (56,3-61,6) (41,3-46,6) (33,1-39,9)	0,8 0,8 0,8 0,3
switch-off	2100			*
End stop	380 320 290 250 400	max. 2,5 7,0-13,0 min.50,0 max.47,0	(5,5-14,5) (11,0-20,0)	
2.4 Solenoid	max. cut-in volta	ge xxx min. rated voltag		

, — — <u>— — — — — — — — — — — — — — — — —</u>	
3. Dimens	ions for assembly and adjustment mm
к	3,2-3,4
KF	5,7-5,9
MS	0,9-1,1
svs	max.3,0
A	
8	
, ,	or stroke n at the nut. (46)
Please no	te instruc-

tions on sheet 2.

BOSCH

Testing the hydr. cold-start accelerator:

300 min/1 - 2,2 - 3,8 mm 800 min/1 - 3,7 - 6,2 mm 1200 min/1 - max. 6,2 mm

46

WPP 001/4 OPE 2,3 h

1. Elition

Testoil-ISO 4113

VE 4/10 F 2100 L 156 0 460 404 037 Overflow temperature 45° C

supersedes company: Ope1 engine: 2,3 TD

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

- mm

see VDT-W-460/

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cin²)	Difference in delivery cm ³
1.1 Timing device travel	1500	5,1-5,5	mm	0,8	
1.2 Supply-pump pressure	1500	5,5-6,1	bar (kgf/cm²)	0,8	
1.3 Full-foad delivery with	1200	58,5-59,5	cm³/1000 strokes	0,8	3,0
charge-air pressure Full-load delivery without	500	36,0-37,0	cm³/1000 stroķes	0	
charge-air pressure 1 4 Idle regulation	290	13,5-17,5	cm ³ /1000 strokes	0	3,0
1.5 Full-speed regulation	2425	15,0-21,0	cm³/1000 strokes	0,8	
1 6 Start	100	min. 48,0	cm ³ /1000 strokes	0	
1.7 Load-dependent port-closing	1500			0	

2. Test Spe	cifications	checking values in l	brackets ()			
21 Timing device LDA=0,8 bar	n = rev/min	800 1,5-2,3(1,		200 .0(3,0-4,4)	1500 (4,6-6,0) 7	2100 ,9-8,7(7,6-9,0
2 2 Supply pump	n = rev/min bar (kgf/cm²)	500		200	2100	
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138(40	-153)		2100 (0, 55-138 (8 bar) 40-153)
2 3 Fuel deliveries					3. Dimen	Sions for assembly
Speed control lever	Rot. speed rev/min	Fuel defivery cm ³ /1000 strokes		Charge-air press. bar (kgf/cm²)	Designation	and adjustment
End stop	2550 2425 2300 2100 1200 800* 500	46,3-48,7	(13,5-22,5) (27,5-36,5) (44,8-50,1) (56,3-61,6) (41,3-46,6) (33,1-39,9)	0,8 0,8 0,8 0,8 0,3 0	K KF MS SVS FH *	3,2-3,4 5,7-5,9 0,9-1,1 max.3,0 1,8-2,4
End stop	380 320 290 250 400	max. 2,5 7,0-13,0 min. 50,0 max. 47,0	(5,5-14,5) (11,0-20,0)	·	= 6,2 mm Correctionadjusting	or stroke n at the nut. (46)
2.4 Solenoid	max. cut-in voltage	xxx min.	10 V	-	*operatin	

4/3

WPP 001/4 CUM 5,9 b
1. Edition

En

VE 6/12 F 1150 R 159-3 Q 460 426 043

Overflow temperature 45° C

supersed@ummins company6 BT - 590 - 190 kW engine

DHK: 1 688 901 016/207 + 3 bar

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

0,3

 $_{mm} \stackrel{+}{-} 0,02 (0,04)$

see VDT·W-460/

1. Settings	Rot. speed rev/min	Seltings		Charge air press bar (kgf/cm²)	Difference in delivery cm ³
1 1 Timing device travel	900	4,3-4,7 4,4-5,0	mm		
1 2 Supply-pump pressure	300	4,4-5,0	bar (kgf/cm²)		
1 3 Full-load delivery with charge air pressure	900	81,5-82,5	cm³/1000 strokes		40 (45)
Full-load delivery without charge-air pressure	375	18,5-24,5	cm³/1000 strokes		4,0 (4,5) 3,5 (4,5)
1.4 Idle regulation	1230	29,0-37,0	cm ³ /1000 strokes		3,5 (4,5)
1 5 Full-speed regulation	100	min. 97,0	cm³/1000 strokes		
1 7 Load-dependent port-closing	-	-			

2. Test Spe	cifications	checking values in brackets ()		
2.1 Timing device	n = rev/min mm	500 1,2-2,0(0,9-2,3)	900 (3,8-5,2)	1150 5,6-6,4 (5,3-6,7)	
2 2 Supply pump	n = rev/min 500 bar (kgf/cm²) 2,7-3,3		1150 5,4-6,0		
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138 (40-153)	55-138	1150 3 (40-153)	

CVeniow delivery	cm ³ /10 s	55-138 (40-153)	55-1	38 (40 - 153)	
2 3 Fuel deliveries	····	······································		3. Dimens	BIONS tor assembly and adjustment
Speed control lever	Rot speed rev/min	Fuel delivery cm ³ /1000 strokes	Charge-air press bar (kgf/cm²)	Designation	mm
End stop	1290 1230 1150 900 750 500	max. 1,5 (28,0-38,0) 74,0-77,0 (72,5-78,5) (79,0-85,0) 81,0-85,0 (79,2-86,7) 80,5-84,5 (78,7-86,2)		KF KF MS SVS	- 5,2-5,5 1,4-1,65 1,2
switch-off				A B	
End stop	450 375 300 130 200	max. 1,5 (16,5-26,5) 41,5-49,5 (40,5-50,5) min. 97,0 max. 85,0		Observations Stop chec shutoff d 375 min/1	k electric evice at
2.4 Solenoid	max. cut-in volta	A VVV mittle In A			

WPP 001/4 CUM 5,9 c 1. Edition

VE 6/12 F 1050 R 159-6 0 460 426 047

Overflow temperature 45° C

DHK: 1 688 901 016/207 + 3 bar

company BT - 590 88,5 kW

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

mm = 0,02 (0,04)

see VDT-W-460/

1. Settings	Rot speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1 1 Timing device travel	750 750	3,3-3,7	mm		
1.2 Supply-pump pressure	/50	3,8-4,4	bar (kgf/cm²)		
1.3 Full-load delivery with	-	-	cm ³ /1000 strokes		4,0 (4,5)
charge-air pressure Full-load delivery without	900	73,0-74,0	cm³/1000 strokes		3,5 (4,5)
charge-air pressure	375	22,0-28,0	cm-/1000 strokes		
1.5 Full-speed regulation	1125	26,0-34,0	cm ³ /1000 strokes		
1 6 Start	100	min. 97,0	cm³/1000 strakes		
1.7 Load-dependent port-closing	-	-			

2. Test Spe	ecifications	checking values in brackets ()	
2.1 Timing device	n = rev/min	500	750	900
	mm	1,4-2,2 (1,1-2,5)	(2,8-4,2)	4,6-5,4 (4,3-5,7)
2 2 Supply pump	n = rev/min	500	900	
	bar (kgf/cm²)	2,6-3,2	4,4- 5,0	
Overflow delivery	n = rev/min	500	1050	
	cm³/10 s	55-138 (40-153)	55-138 (40-153)	

	cm ³ /10 s	55-138	(40-153)	55-138	3 (40~153)	
2 3 Fuel deliveries Speed control lever	Rot.speed	Fuel delivery		Charge-air press	3. Dimer	ISIONS for assembly and adjustment
	rev/min	cm ³ /1000 strokes		bar (kgf/cm²)		
End stop	1175 1125	max. 1,5	(25,0-35,0)		к	-
1	1050	67,5-70,5	(66,0-72,0)		KF	5,2-5,5
	900 750	74,0-78,0	(70,5-76,5) (72,2-79,7)		MS	1,4-1,65
	500	85,5-89,5	(83,7-91,2)		svs	1,2
switch-off					^	
					8	
Idle stop	450	max. 1,5			Observations	
	375	55 0 62 0	(20,0-30,0)	1		
End	300 130		(54,0-64,0)		Stop che	ck electric
stop	200	min. 97,0 max. 85.0				device at
3 top	200	11107.05,0			375 min/	
2.4 Solenoid	max. cut-in voltag	xxx min.rated volta		'		

WPP 001/4 CUM 5,9 e

1. Edetion

VE 6/12 F 1100 R 159-7 0 460 426 049 Overflow temperature 45° C

companyCummins
engine 6 BT - 590 91 kW

DHK: 1 688 901 016/207 + 3 bar

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

see VDT-W-460/

e-stroke setting 0.3 mm $\stackrel{+}{=} 0.02 (0.04)$

l. Settings	Rot speed rev/min	Settings		Charge-air press bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	750	3,1-3,5	mm		
1 2 Supply-pump pressure	750	3,6-4,2	bar (kgf/cm²)		
1 3 Full-load delivery with	-	-	cm³/1000 strokes		
charge-air pressure Full-load delivery without	900	68,5-69,5	cm³/1900 strokes		4,0 (4,5
charge-air pressure 1 4 Idle regulation	375	22,0-28,0	cm³/1000 strokes		3,5 (4,5
1 5 Full-speed regulation	1175	28,0-34,0	cm ³ /1000 strokes		
1 6 Start	100	min. 97,0	cm ³ /1000 strokes		
1.7 Load-dependent port-closing	-	-			

2. Test Spe	cifications	checking values in brackets ()	
2 1 Timing device	n = rev/min	500	750	1100
	mm	1,3-2,1 (1,0-2,4)	(2,6-4,0)	5,6-6,4 (5,3-6,7)
2.2 Supply pump	n = rev/min	500	1100	
	bar (kgf/cm²)	2,5-3,1	5,0-5,6	
Overflow delivery n = rev/min cm ³ /10 s		500 55-138 (40-153)	1100 55-138 (40-1	153)

	cm3/10 s	55-138 (40-153)	55-138 (40	-153)	
2.3 Fuel deliveries				3. Dimer	18i0ns for assembly and adjustment
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes	Charge air press bar (kgf/cm²)	Designation	mm
End stop	1250 1175 1100	max. 1,5 (26,0-36,0 62,5-65,5 (61,0-67,0		K KF	5, 2 - 5,5
	900 750	(66,0-72,0 69,0-73,0 (67,2-74,7		MS	1,4-1,65
	500	66,0-70,0 (64,2-71,7		svs	1,2
switch-off				A 8	
Idle stop	450	max. 1,5		Observations	
End stop	375 300 130 200	48,0-56,0 (20,0-30,0 min. 97,0 max. 85,0		Stop che	ck electric device at 1
2.4 Solenoid	max. cut-in volta	oge xxxx min. 10 V crated voltage 12V.			

WPP 001/4 CUM 5,9 m 1. Edition

VE 6/12 F 1100 R 159 - 9 Overflow temperature 45° C

0 460 426 051

DHK: 1 688 901 016/207 + 3 bar

companyCummins

engine 6 BT - 590

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Festers

mm = 0.02 (0.04)0.3

Test Instructions and Test Equipment

Pre-stroke setting 0,3	mm + 0,02	? (0,04)		see VDT-W-460/	
1. Settings	Rot speed rev/min	Settings		Charge air press bar (kgf/cm²)	Difference in delivery cm ³
t 3 Timing device travel	750	3,1-3,5	mm		
1.2 Supply-pump pressure	750	3,6-4,2	bes (kgf/cm²)		
1.3 Full-load delivery with	-	-	cm³/1000 strokes		
charge-air pressure Full-load delivery without	900	81,5-82,5	cm³/1000 strokes		4,0 (4,5)
charge-air pressure 1.4 Idle regulation	375	27,0-33,0	cm ³ /1000 strokes	1	3,5 (4,5)
1.5 Full-speed regulation	1175	37,0-43,0	cm ¹ /1000 strokes	}	
1 6 Start	100	min. 97,0	cm ¹ /1000 strokes		
1.7 Load-dependent port-closing	-	-			

2 Supply pump	2. Test Spe	cifications	checking values in brackets ()	
bar (kgf/cm²) 2,5-3,1 5,0-5,6 Overflow delivery n = rev/min	7 1 Timing device				1100 5,6-6,4 (5,3-6,7)
Overflow delivery n = rev/min 500 1100	:? 2 Supply pump	į.			
^{cm³/10 s} 55-138 (40-153) 55-138 (40-153)	Overflow delivery		500 55-138 (40-153)	1100 55-138 (40-153)	

2.3 Fuel deliveries		The district of the second second second second second second second second second second second second second		3. Dime	for assembl
Speed control lever	Rot speed rev/min	Fuel d/alivery cm³/1/000 strokes	Charge-air press bar (kgf/cm²)	Designation	and adjustm mm
End stop	1250 1175 1100 900 750 500	max. 1,5 (35,0-45,0 77,0-80,0 (75,5-81,5) (79,0-85,0 83,0-87,0 (81,2-88,7 82,5-86,5 (80,7-88,2)		K KF MS SVS	5,2=5 1,4=1 1,3
switch-off				A 8	
End stop	450 375 300 150 240	max. 1,5 (25,0-35,0) 56,0-64,0 (55,0-65,0) min. 97,0 max. 85,0		Stop chec shutoff c 375 min/1	
2.4 Solenoid	max. cut-in volt	age xxx min. 10 V			

1931 491499 xxxrated voltage 12V.

Designation	for assembly and adjustment mm
K	-
KF	5,2-5,5
MS	1,4-1,65
svs	1,2
A	
8	
Observations	
Stop checi	

WPP 001/4 CUM 5.9 n 1. Edition

VE 6/12 F 1050 R 159-12 0 460 426 055

Overflow temperature 45° C

supersedes companyCummins engine: 6 BT - 590 88,5 kW

DHK: 1 688 901 016/207 + 3 bar

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke setting

0,3

 $_{mm} \stackrel{+}{-} 0,02 (0,04)$

see VDT-W-460/

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	750	3,3-3,7	mm		
1.2 Supply-pump pressure	750	2,6-3,2	bar (kgf/cm²)		
1.3 Full-load delivery with	-	-	cm ³ /1000 strokes		
charge-air pressure Full-load delivery without	900	73,0-74,0	cm³/1000 strokes		4,0 (4,5)
charge-air pressure 1.4 Idle regulation	375	22 ,0-28,0	cm³/1000 strokes	į	3,5 (4,5)
1.5 Full-speed regulation	1 15	26,0-34,0	cm³/1000 strokes		
1.6 Start	100	min. 97,0	cm³/1000 strokes		
1.7 Load-dependent port-closing	-	-			

2.1 Timing device	n = rev/min	500		750	90	00
	mm	1,5-2,2 (1,1-2,5)	(2,8-4,2)	4,6-5,4	(4,3-5,7)
2 2 Supply pump	n = rev/min bar (kgf/cm²)	500 2,6	0 -3,2		900 4,4-5,0	
Overflow delivery	n = rev/min cm³/10 s	50 55-138	0 (40-153)	55-	1050 138 (40-153	3)
2 3 Fuel deliveries					3. Dimer	for assembly
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes		Charge-air press. bar (kgf/cm²)	Designation	and adjustment mm
End stop	1175 1125 1050 900 750 500	l	(25,0-35,0) (66,0-72,0) (70,5-76,5) (72,2-79,7) (83,7-91,2)		K KF MS SVS	5,2-5,5 1,4-1,65 1,2
switch-off					A 8	
End stop	450 375 300 130 200	max. 1,5 55,0-63,0 min. 97,0 max. 85,0	(20,0-30,0) (54,0-64,0)		Observerions Stoppkont bei 375 r	
2.4 Solenoid	max. cut-in volta	e xxx min. rated voltage				

WPP 001/4 CUM 5,9 0 1. Edition

VE 6/12 F 1200 R 159-13 O 460 426 056

Overflow temperature 45° C

Cummins 6 BT - 590

DHK: 1 688 901 016/207 + 3 bar

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

see VDT·W-460/

 $_{mm} \stackrel{+}{-} 0,02 (0,04)$ 0,3 Pre-stroke setting

1. Settings	Rot. speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1.1 Timing device travel	750	2,8-3,2	mm		
1 2 Supply-pump pressure	750	3,9-4,5	bar (kgf/cm²)		
1 3 Full-load delivery with	-	-	cm³/1000 strokes		
charge-air pressure Full-load delivery without	1100	65,5-66,5	cm³/1000 strokes		4,0 (4,5)
charge-air pressure 1.4 Idle regulation	375	24,5-30,5	cm ³ /1000 strokes		3,5 (4,5)
1.5 Full-speed regulation	1250	34,5-40,5	cm ³ /1000 strokes		
1.6 Start	100	min. 97,0	cm³/1000 strokes		
1.7 Load-dependent port-closing	-	-			

2. Test Specifications checking values in brackets ()						
2.1 Timing device	n = rev/min mm	500 1,1-1,9 (0,8-2,2)	750 (2,3-3,7)	1100 5,1-5,9 (4,8-6,2)		
2 2 Supply pump	n = rev/min bar (kgf/cm²)	500 2,8-3,4		1100 5,3-5,9		
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138 (40-153)		1200 55-138 (40-153)		

_	ł	1 100 (10 100)	33-13	_
2 3 Fuel deliveries				3
Speed control lever	Rot speed rev/min	Fuel delivery cm ³ /1000 strokes	C/narge-air press. bar (kg1/cm²)	De
End stop	1350 1250 1200 1100 750 400	max. 1,5 (32,5-42,5) 62,5-65,5 (61,0-67,0) (63,0-69,0) 71,0-75,0 (69,2-76,7) 66,0-70,0 (64,2-71,7)		
switch-off				
End stop	450 375 300 130 200	max. 1,5 (22,5-32,5) 49,0-57,0 (48,0-58,0) min. 97,0 max. 85,0		Ob
2.4 Solenoid	max. cut-in voltage	xxx min. 10 y rated voltage 12V.	<u> </u>	

3. Dimer	for assembly	
Designation	and adjustment mm	
K	-	
KF	5,2-5,5	
MS	1,4-1,65	
svs	1,2	
A		
В		
Observations		
Observations		
Stop che	čk electric device at	
375 min/		

BOSCH

WPP 001/4 CUM 5,9 g1 1. Edition

VE 6/12 F 1250 R 173-1 0 460 426 046

Pre-stroke setting

Overflow temperature 45° C

supersedes Cummins 6 BT - 590

DHK: 1 688 901 016/207 + 3 bar

Test Instructions and Test Equipment

see VDT·W-460/

1. Settings	Rot speed rev/min	Settings		Charge air press bar (kgf/cm²)	Difference in delivery cm ⁹
A A Timing As in a discussion	1100	2,1-2,5	mm	0,75	
1.1 Timing device fravel	1100	4,3-4,9		0,75	
Supply-pump pressure	1100	86,0-87,0	bar (kgf/cm²)	1	40 (45)
1:3 Full-load delivery with		1	· cm ³ /1000 strokes	0,75	4,0 (4,5)
charge-air/pressure Full-load/delivery without	500	73,5-74,5	cm ³ /1000 strokes	0	
charge-sir pressure	375	20,0-26,0	cm³/1000 strokes	0	3,5 (4,5)
1 4 Idle regulation	1450	36,0-44,0		0,75	
1.5 #ull-speed regulation	100	min. 97,0	cm³/1000 strokes		1
1 6 Stert	100	MIII. 97,0	cm³/1000 strokes	0	
1.7 Libad-dependent port-closing	-	-			

2.Test Spec		ليتولون والمناور والمراور والمناور والمناور والمناور والمناور والمناور والمناور والمناور والمناور والمناور		
21 Timing device	n = rev/min	900	1100	1250
LDA = 0,75bar	mm	0,4-1,2 (0,1-1,5)	(1,6-3,0)	2,9-3,7 (2,6-4,0)
2 Supply pump	n = rev/min	500	12	= =
_DA= 0,,75 bar	bar (kgf/cm²)	2,0-2,6	5,0-	
Overflow delivery	n = rev/min	500	129	50
	cm ³ /10 s	55-138 (40-153)	55-138	(40-153)

2 3 Fuel delivenes	· · · · · · · · · · · · · · · · · · ·	The contract of the second second		
Speed control letter	Rot speed rev/min	Fuel delivery cm ³ /1000 strokes		Charge-air press
End stop	1600 1450 1250 1100 900 750 *	max. 1,5 82,0-85,0 88,5-92,5 80,0-81,0	(35,0-45,0) (80,5-86,5) (83,5-89,5) (86,7-94,2) (77,5-83,5) (70,2-77,7)	0,75 0,75 0,75
switch-off				
End stop	450 375 300 130 200	max. 1,5 35,0-43,0 min. 97,0 max. 85,0	(18,0-28,0) (34,0-44,0)	
2.4 Solenoid	max. cut-in voltage	xxx min. rated voltag	10 V je 12V.	

mm
_
5,2-5,5
1,4-1,65
2,4
electric evice at

Correction at the adjusting nut. (46)

BOSCH

40

WPP 001/4 CUM 3,9 b

1. Edition

VE 4/12 F 1400 R 182

Overflow temperature 45° C

supersedes companyCummins

0 460 424 015

engine 4 BT-390 78 kW

DHK 1 688 901 016 / 207 + 3 bar

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

Pre-stroke sctting

0.3 mm

mm ± 0,02 (0,04)

see VDT·W·460/

1. Settings	Rot speed rev/min	Settings		Charge-air press. bar (kgf/cm²)	Difference in delivery cm ³
1 1 Timing device travel	1100	1,4-1,8	mm	0,75	
1.2 Supply-pump pressure	1100	4,7-5,3	bar (kgf/cm²)	0,75	
1 3 Full-load delivery with	1100	81,5-82,5	cm³/1000 strokes	0,75	4,0 (4,5)
charge-air pressure Full-load delivery without	500	64,0-65,0	cm³/1000 strokes	0	
charge-air pressure 1 4 Idle regulation	375	20,0-26,0	cm³/1000 strokes	0	3,5 (4,5)
1 5 Full-speed regulation	1600	22,0-28,0	cm³/1000 strokes	0,75	
1 6 Start	100	min. 97,0	cm³/1000 strokes	0	
1.7 Load-dependent port-closing	-	-			

2. Test Spec	cifications	checking values in brackets ()		
21 Timing device LDA=0,75 bar 22 Supply pump LDA=0,75 bar	n = rev/min mm n = rev/min bar (kgf/cm²)	1000 0,6-1,4(0,3-1,7) 500 2,1-2,7	1100 (0,9-2,3) 1250 5,2-5,8	1250 2,1-2,9(1,8-3,2)	
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138(40-153)	55-1	1400 38(40~153)	

		33-130(40	-1557	33-130(40*
23 Fuel deliveries			· · · · · · · · · · · · · · · · · · ·	
Speed control lever	Rot. speed sev/min	Fuel delivery cm ³ /1000 strokes		Charge-air press bar (kgf/cm²)
End stop	1750 1600 1475 1400 1100 900 750* 500	max. 1,5 54,5-62,5 72,0-75,0 82,5-86,5 77,5-78,5 64,0-65,0		0,75 0,75 0,75 0,75 0,75
switch-off				
idle stop	450 375	max. 1,5	(18,0-28,0)	
End stop	300 130 200	35,0-43,0 min. 97,0 max. 85,0	(34,0-44,0)	
2.4 Solenoid	max. cut-in volta	ge xxxx min. rated volta		1

3. Dimer	ISIONS for assembly and adjustment mm
K KF MS SVS	5,2-5,5 1,4-1,65 4,6
A B	
Observations Stop ched	ck electric

shutoff device at

Manifold-pressure compensator stroke = 7.5 mm Correction at the adjusting nut. (46)

375 min/1

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz. Ausrustung.
4. 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

WPP 001/4 CUM 3,9 b 1

1. Edition

VE 4/12 F 1250 R 182-1

0 460 424 016

Overflow temperature 45° C

supersedes company Cummins engine 4 BT-390

DHK: 1 688 901 016 / 207 + 3 bar

All test specifications are valid only for Bosch Fuel-injection Pump Test Benches and Testers

Test Instructions and Test Equipment

0,3

mm = 0.02 (0.04)

see VDT·W·460/

1. Settings	Rot. speed rev/min	Settings		Charge-air press bar (kgf/cm²)	Difference in delivery cm ³	
1.1 Timing device travel	1100	1,4-1,8	mm	0,75		
1.2 Supply-pump pressure	1100	4,7-5,3	bar (kgf/cm²)	0,75		
13 Full load delivery with	1100	81,5-82,5	cm³/1000 strokes	0,75	4,0 (4,5	
charge air pressure Full-load delivery without	500	64,0-65,0	cin ¹ /1000 strokes	0		
charge-air pressure 1 4 title regulation	375	20,0-26,0	cm³/1000 strokes	0	3,5 (4,5)	
1.5 Full-speed regulation	1500	29,0-35,0	cm³/1000 strokes	0,75		
1.6 Start	100	min. 97,0	cm ³ /1000 strokes	0		
1.7 Load-dependent port-closing	-	-				

2. Test Spec	cifications	checking values in brackets (•	
21 Timing device	n = rev/min	1000 0,6-1,4(0,3-1,7)	1100	1250
DA=0,75 bar	mm		(0,9-2,3)	2,1-2,9(1,8-3,2)
22 Supply pump	n = rev/min	500		250
DA=0,75 bar	bar (kgf/cm²)	2,1-2,7		,2 - 5 , 8
Overflow delivery	n = rev/min cm ³ /10 s	500 55-138(40-153)		1250 55-138(40-153)

23 Fuel deliveries				
Speed control lever	Rot. speed rev/min	Fuel delivery cm ³ /1000 strokes	- 1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	Charge-air press bar (kgf/cm²)
End stop	1630 1500 1340 1250 1100 900 750* 500	76,5-79,5 82,5-86,5 77,5-78,5	(27,0-37,0) (67,0-77,0) (75,0-81,0) (79,0-85,0) (80,7-88,2) (75,0-81,0) (60,7-68,2)	0,75 0,75 0,75 0,75 0,75 0,75 0,3
Idle stop	450 375 300	max. 1,5	(18,0-28,0) (34,0-44,0)	
End stop	130 200	min. 97,0 max. 85,0	(34,0-44,0)	
2.4 Solenoid	max. cut-in voit	ege xxxx min. rated voltag		<u></u> _

3. Dimen	Sions for assembly and adjustment mm
K KF MS SVS	5,2-5,5 1,4-1,65 4,6
A 8	
Observations	
Stop chec shutoff d 375 min/1	k electric evice at
Manifold-p compensato = 7.5 mm Correction	r stroke at the

Test Specifications Fuel Injection Pumps and Governors

40

WPP 001/4 MB 5,7 m

Fn 7. [lition

Testoil-ISO 4113

PES 6 A 80 C 410	RS2085X	EP/RSV 350-1300	A2B1005D	(1) 2C. supersed?	n.84	
	RS2085X	EP/RSV 350-1425	A2B1001D	(2) company	Daimler	-Benz
D		EP/RSV 350-1425			OM 352	- Unimag
		EP/RSV 350-1400			(1+5)	84 PS
		EP/RSV 350-1300			(2)	90 PS
		•		•		100 PS
All test specifications are valid		(4)	110 PS			

A. Fuel Injection Pump Settings

Port closing at prestroke

2.15 + 0.1

mm (from BDC)

Rotational speed	Control rod travel	Fue/ delivery cm³/100 strokes	Difference cm ³ / 100 strokes	Control rod travel	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
1	2	3	4	2	3	6
1000	9	3,8 - 4,3	0,3			
	6 15	1,2 - 2,0 9,8 - 11,0				
200	9	1,8 - 2,6				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

A2 C 350-1300 A2 B1005 D (1)

Upper	Upper rated speed			Intermediate rated speed			r rated spe	ed	3 Torque control	
Degree of deflection of control lever		Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travet	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
lose	800	0,3-1,0	_	-	-	lose	350	6,9		β,0+0,1
	×	= 4,25				:		min.17,5 6,8-7,0	700	9,4+0,1 9,2+0,2
ca.48	7,0 4,0 1575	1340-1350 1400-1430 0,3-1,7						680=2,0	950	8,3+0,3

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-load stop					Starting Idle	fuel delivery	Sa Idle stop		
Test oil tem rev/min 1	p. 40°C (104°F) cm³/1000 strokes 2	Note: changed to rev/min 3	rev/min 4_	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9	
(1) 1300	40,0 - 41,0 (38,5-42,5)	1340-1350 •	500	39,5 - 41,5 (37,5-43,5)	100	78,0 - 88,0 (75,0-91,0) = 14,5 - 14,9 mm RW		40	

Checking values in brackets

* 1 mm less control rod travel than col 2

B. Governor Settings

350-1425 A2 B1001D (2)

(1) Upper	vated speed	d speed Intermediate rated speed 4 Lower rated speed			r rated sp	eed	(3) To	rue control		
Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rad travel mm	rev/min	Control rod travel mm
,	2	3	4	5	6	7	8	9	10	11
ca.60	1425	16,0				ca.22	350	7,5	1400	0
	1500 1560	11,5 6,8	without	auxil	liary spri	ng	200 350	19 - 21 7,2-7,8	900	0 -0,2
⑤	1530 1600 1820	7,5-10,5 4,0-6,0 0,3-1,0	with au	xiliar	ry spring		500 700 940	5,1-6,6 0,1-4,0 0 - 1	400	1,3-1,5

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-li			6 Rotational speed limital (3a) Fuel delivery characteristics			fuel delivery	(5a) Idle stop		
Test oil ten rev/min 1	op 40°C (104°F) cm²/1000 strokes 2	Note changed to rev/min 3	rev/min	cm ¹ /1000 strokes 5	rev/min	cm ¹ /1000 strakes 7	rev/min 8	Control rod travel mm 9	
(2) 1400	41,5 - 42,5 (40,0-44,0)	1455-1465	1000 800 & 50	37,5 - 39,5 (36,0-41,0) 39,0-41,0 (37,5-42,5) 40,5-42,5 (39,0-44,0)	-	••	•	•	

Checking values in brackets

• 1 mm less control rod travel than col 2

Testoil-ISO 4113

B. Governor Settings

350-1425 A2 B1007D (3)

(1) Upper	rated spee	d	Intermediate	Intermediate rated speed			r rated spe	eed	3 Torque control	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
ca.60	1425	16,0				ca.22	350	7,2	1400	0
	1500 1560	11,4		19 - 21 6.9-7.5	950	0				
⑤	1520 1650 1800	8,0-10,9 2,1-4,4 0,3-1,5	with au	ıxiliaı	ry spring		4	2,3-4,6 0 -1,5	1	0,9-1,1

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-load stop		6 Rotational- speed limitat	Ga Fuel delivery characteristics		Starting fuel delivery Idle		(5a) Idle stop	
Test oil tem rev/min t	p 40°C (104°F) cm³/1000 strokes 2	Note changed to rev/min 3	rev/min	cm³/1000 strakes 5	rev/min	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9
(3) 1400	45,5 - 46,5 (44,0-48,0)	1420-1430	1000 800 500	41,5 - 43,5 (40,0-45,0) (43,0-45,0 (41,5-46,5) (40,5-42,5 (39,0-44,0)	•	•	-	•

B. Governor Settings

..A2B 1052 D (4)

	r rated speed		intermediate rated speed			Gontrol-		rated speed Control rod	Torque control Control rod		
Degree of deflection of control lever	travel mm	travel mm rev/min		5	6	lever deflection in degrees	rev/min	trav el mm 9	rev/min	travei mm	
lose	800 x =	0,3-1,0 4,0		-	-	lose	350 100 250	6,9 min.19,0	1400 500 750	9,0-9,1 9,9+0,1 9,7-9,9	
ca. 55	8,0 4,0 1680	1440-1450 1515-1545 0,3-1,7					350 650-71	6,8-7,0 0 = 2,0	950	9,3-9,6	

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	ill-load stop	6 Rotational- speed limitat	6 Rotational- speed limitat 3a Fuel delivery characteristics			Starting fuel delivery 5 4a Idle stop			
rev/min	emp. 40°C (104°F) cm³/1000 strokes 2	Note: changed to) rev/min 3	rev/min	cm³/1000 strokes	rev/min	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm	
1400 (4)	52,0-53,0 (50,5-54,5)	1440-1450*	500	46,0-48,0 (44,0-50,0)	100	78,0-88,0 (75,0-91,0) =14,2-14,6 mm RW	1	-	

Checking values in brackets

Testos-150 4113

* 1 mm less control rod travel than col. 2

B. Governor Settings

Uppe Degree of deflection of control lever	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min 3	Interme	ediate rated	speed	Control- lever deflection in degrees 7	Lower rev/min B	rated speed Control rod travel mm	1(5)	rque control Control rod travel mm 11
ca. 51	1300 1360 1400	16,0 10,8 6,7	with	without auxiliar			350 200	8,0 19-21	1280 800	0 0,8-1,0
ca. 49	1400	ca. 8,2 ca. 3,7 0,3-1,0	with	auxil	iary s	pring	350 600 780	7,7-8,2 2,2-4,3 0-1,0		

C. Settings for Fuel Injection Pump with Fitted Governor

2b) F:	ill-load stop	6 Rotational- speed limitat	Rotational- speed limitat 3a Fuel delivery characteristics			Starting fuel delivery 5 48 Idle stop			
Test oil to rev/min 1	emp. 40°C (104°F) cm ³ /1000 atrokes 2	Note: changed to) rev/min 3	rev/min	cm³/1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm 9	
1290 (5)	40,0-41,0 (38,5-40,5)	1330-1340*	800 500	36,5-39,5 (35,0-41,0) 36,5-39,0 (35,0-40,5)	100	72,5-82,5	-	-	

Checking values in brackets En

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 0MB 4,4 d

3. Edition

En

PES 4 A 90 D 410 RS 2195

EP/RSV 325-1050 A 4 B 1079 D

supersedr 1.84 company OMB CO 3...

Komb.-Nr. 0 400 874 198

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke 2,15-2,25

mm (from BDC)

Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre tensioning (torque control valve)
mm 2	cm ¹ /100 strokes 3	cm / 100 strokes 4	mm 2	cm·/100 strokes	mm 6
10,4+0,1	7,5-7,6	0,3(0,45)			
7,4-7,6	-	-			
	mm 2 2 10,4+0,1	travel mm 2 cm'/100 strokes 3 10,4+0,1 7,5-7,6	travel mm 2 cm 1/100 strokes 3 cm 1/100 strokes 4 cm 1/100 strokes 4 0,3(0,45)	travel mm 2 cm*/100 strokes 100 strokes 4 travel mm 2 10,4+0,1 7,5-7,6 0,3(0,45)	travel

Adjust the fuel delivery from each outlet according to the values in E

B. Governor Settings

Degree of deflection of control lever	rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Interme	Intermediate rated speed 4 5 6		Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control ind travel mm	IV & J	rque control Control rod travel mm
ca. 62	1030 1080 1120	16,0 9,8 3.0	without auxiliar			ca. 26 y spring	325 100 325	6,5 19 - 21 6,2-6,8	1030 300	0 0,2-0,8
29	1050 1120 1220	ca. 9,8 ca. 3,0 0,3-1,0	with	auxil	iary s	pring	450 600	1,4-3,7 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

9	ill load stop		speed limitat Characteristics			Starting fuel delivery 5 48 Idi		
rev/min	cm /1000 strokes	Note changed to) rev/min 3	rev/min	cm ¹ /1000 strokes	rev/min	cm+/1000 strokes 7	rev/min 8	Control rod travel mm
1050	74,5-75,5 (72,5-77,5)	1075-1090*	600	64,5-67,5 (62,5-69,5)	-	-	-	-
						:		

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

Test Specifications Fuel Injection Pumps ① and Governors

WPP UU1/4 KHD 19.0 o

1. Edition

PE 12 A 85 D 610 LS 2241

RQV 300/1325 AB 938 DL

supersedes KHD Company

Komb.-Nr. 0 400 640 076

1-4-9-8-5-2-11-10-3-6-7-12

engine F 12 L 413

0-15-60-75-120-135-180-195-240-255-300-315° ± 0,5° (± 0,75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (1,45-1,65) mm (from BC

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1325	10,3+0,1	7,2-7,3	0,3(0,5)			
300	6,9-7,1	0,8-1,4	0,4			
			·			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediat	e rated sp	eed	Lower rated	speed		Sliding	sleeve travel
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod travel mm rev/min (28	of central	rev/min	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min 8	Control rod travel mm 3	rev/min	0
max.	1350	15,2-17,	3 -	-	-	ca. 13	100	min.8,5		0,6-0,9
ca. 65	9,3 4,0 1550	1425-1455				350-520	300	[6,9-7,1		2,8-3,1 4,8-5,1 8,3
						3				

Torque control travel a = 0,6 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b timitation intermediate speed	Fuel delivery characteristics (Se) high idle speed (Sb)		Starting Idle switchir		Torque- travel	control 5
rev/min 1	cm³/1000 strokes	rev/min 4a	rev/min 4	cm ³ /1 000 strokes	rov/min 6	cm ³ /1000 strokes 7	rev/min 8	travel mm
1325	72,0-73,0 (70,0-75,0)	1365-1375*	800 1000	69,0-72,0 (66,5-74,5) 66,5-69,5 (64,0-72,0)	•	-	800	10,3+0, 10,9+0, 10,5+0,2

Checking values in brackets

* 1 mm less control rod travel than col. 2

Festoil-ISO 4113

WPP 001/4 MB 5,7 r 2

Elition

PES 6 A 90 D 410 RS2293

EP/RSV 350-1500 A2B741L

supersedeR.77

Komb.-Nr. 0 400 876 271

A2C741L

companiDa imler-Benz

engine OM 352

Set idle-speed auxiliary spring at 2.0 mm control-rod travel, then 1/2 turn back.

32kW/111PS

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2.10-2.30)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ³ /100 strokes	cm³/ 100 strokes	mm	cm³/100 strokes	mm
1	2	3	4	2	3	6
1450	3,9-9,0	5,3 - 5,4	0,3(0,45)			
350	7,4-7,6	0,9 - 1,5	0,25(0,4	5)		
]			
					<u> </u>	

Adjust the fuel delivery from each outlet according to the values in ["

B. Governor Settings

Upper	rated speed	1	Intermediate	rated spe	ed	4 Lowe	r rated spe	ed	3 Torque control	
Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
lose	300	0,3-1,0				ca.9	350	7,5	-	-
ca.60	7,9	0,75 11500-1505 11552-1573	!				350	min.19 7,4-7,6 395=2,0		
(5)	4,0 1630	0,3 - 1,7								

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-lo	oad stop	6 Rotational- speed limitat.		el delivery tracteristics	Starting	fuel delivery	5a) Idle stop	
Test oil tem rev/min 1	p. 40°C (104°F) cm³/1000 strokes 2	Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm³/1000 strokes 7 mm RW	rev/min B	Control rod travel mm
1450	52,5 - 53,5 (50,5 - 55,5)	1500-1505#	-	•	100	14,7-15,3	-	•
			,					

Checking values in brackets

* 1 mm less control rod travel than col 2

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 MB 5,7 q 2

12. Edition

<u>En</u>

PES 6 A 90 D 410 RS 2293 Komb.-Nr. 0 400 876 255 RSV 350-1300 A0B 783 L A0C 783 L Supersedr 12.83
Daimler-Benz
company OM 352 A
engine 110 kW (150 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Testoil-ISO 4113

2,15-1,25 (2,10-2,30)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery	Difference	Control red travel	fuel delivery	Spring pre tensioning dorque control valves
rev/min t	mm 2	cm ¹ /100 strokes 3	cm ^{-y} 100 strakes 4	mm 2	cm//100 strokes	mm 6
1300	11,4+0,1	7,6-7,7	0,3(0,45)			
350	7,3-7,5	1,0-1,4	0,2(0,4)			
·						

Adjust the fuel delivery from each outlet according to the values in E

B. Governor Settings

Degree of deflection of control lever	crated speed Control rod travel mm	Control rod travet mm rev/min	Interme	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min	rated speed Control rod travel mm	(3) To	rque control Control rod travel nnm
lose		0,3-1,0 3,5	-	•	-	lose		7,4 min. 19,0	1300 800	11,4-11,5 11,7-11,8
ca. 6 5	4,0	1340-1350 1460-1490 0,3-1,7					350 570 - 63	7,3-7,5 0=2,0	1050	11,5-11,7

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ull load stop	6 Rotational speed limitat	33 F	uel delivery naracteristics	Starting	fuel delivery (5)	(413) Id	e stop
rev/min	emp 40°C (104°F) cm*/1000 strokes 2	Note changed to) rev/min 3	rev/min	cm //1000 strakes 5	rev/min	cm ¹ /1000 strokes	revi/min	Control rod travel mm
LDA 1300 LDA 800	0,7 bar 75,5-76,5 (73,5-78,5) 0,7 bar 67,0-69,0 (64,5-71,5)	1340-1350*	LDA 500 LDA 500	0,7 bar 62,0-64,0 59,5-66,5) 0 bar 50,0-52,0 (47,5-54,5)	100	78,0-88,0 (75,0-91,0 - 15,1 - 15,5 mm R)	•

Checking values in brackets

* 1 mm less control rod travel than col. 2

BOSCH

D. Adjustment Test for Manifold Pressure Compensator

MB 5,7 q 2 rev/min decreasing pressure - in bar gauge pressure Testatin 500 diminution Control rod travel Setting Measurement Pump/governor Gauge pressure Gauge pressure bar mm (1) PES 6 A .. RS 2293 0,7 11,7-11,8 10,7-10,8 11,4-11,5 10,9-11,1 +RSV..AOB 783 L 0,39 0,28

Notes

(1) when n

rev/min and gauge pressure

bar (maximum full-load control rod travel)

- 2 -

Testing the hydraulic start-locking device

Locking at

Unlocking at

0,40 - 0,50 bar 0,15 - 0,25 bar

①

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MB 5,7 s 5 2. Ec.tion

En

PES 6 A 90 D 410 RS 2293 Komb.-Nr. 0 400 846 365

ROV 300-1425 AB 947 L

supersed 6.84 Daimler-Benz company OM 352 A engine 124 kW

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,10-2,23

mm (from BDC)

		(2,10-2,30)				
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1375	10,8+0,1	7,4-7,5	0,3(0,45			
300	6,8-7,0	0,9-1,5	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediate	rated sp	eed	Lower rated	speed		Sliding	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm rev/min 28	of control	rev/min	Control rod travel mm 4	Degree of deffection of control lever 7	re≃/min 8	Control rod travel rnm 3	revimin	mm
max. ca,66	1420 9,8 4,0 1650	16,0-19,0 1435-1445 1530-1560 0 - 1,0	-	-	-	ca.12 300-500	300 570-6 750 n	5,7-5,9 $530 = 2,0$	640	0,9-1,1 3,3-3,7 5,9-6,2 8,7

Torque controt travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-toad d Control-ro Test oil ten		Rotational-speed 2b limitation intermediate speed			Starting Idle switchir		Torque-	Control 5 Control rod
rev/min	cm³/1000 strokes	rev/min 4	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
LDA 1375	0,5 bar 74,0-75,0 (72,0-77,0)	1435-1445* 700	LDA 500	0 bar 54,0-56,0 (52,0-58,0)	100	71,0-81,0 (68,0-84,0) - 13,7-14,3 mm KV	•	-

Checking values in brackets

* 1 mm less control rod travel than col 2

D. Adjustment Test for Manifold Pressure Compensator

MB 5,7s5

-2-

ī	est	at	n

1375 rev/min decreasing pressure - in bar gauge pressure

1373			
Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure bar	Gauge pressure bar	mm (1)
PES 6 ARS 2293 + RQVAB 947 L	0,50	0,15 0	10,8 - 10,9 10,4-10,6 10,2-10,3
			•
	1		1

Notes

(1) when n

rev/min and gauge pressure

bar (* maximum full-load control rod travel)

①

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MB 5,7 s 7

2. Edition

PES 6 A 90 D 410 RS 2293

Komb.-Nr. 0 400 846 367

ROV 300-1425 AB 949 L

supersede 84

company Daimler-Benz engine OM 352 A

124 kW

stoil-150 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings

Rotational speed	Control rod travet	Fuel delivery cm ² /100 strokes	Difference cm³/ 100 strokes	Control rod travel	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
1 	2	3	4	2]3	6
1375	10,8+0,1	7,4-7,5	0,3(0,45			
300	6,8-7,0	0,9-1,5	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated t	peed			Intermediate	rated sp	eed	Lower rated	speed		Sliding s	leeve travel
deflection	rev/min Control rod travel mm 2	Control rod travet mm rev/min ((a) (3)	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of contro! lever 7	rev/min 8	Control rod travel mm 3	rev/min	mm 11
max. ca. 66	9,8 4,0 1650	1530-156	5	-	-	-	ca. 12 300-500 30	300 570-6	min.7,3 5,7-5,9 30 = 2,0 max _± 1,0	640	0,9-1,1 3,3-3,7 5,9-6,2 8,7

Torque control travel a =

- mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed	Feel delightightide s	very characteristics (5a)	Starting Idle switchir		Torque- travel	Control o
rev/min	cm ³ /1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm³/1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
LDA 1375	0,7 bar 74,0-75,0 (72,0-77,0)	1435-1445* 700	LDA 500	0 bar 54,0-56,0 (52,0-58,0)	I	71,0-81,0 (68,0-84,0) = 13,7-14,3 mm RW	•	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

MB 5,7 s 7

_ 2 _

Test at n

1375

rev/min decreasing pressure - in barrgauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure - b	ar Gauge pressure - bar	mm (1)
PES6ARS2293	0,70		10,8 - 10,9
+ RQVAB949L		0,20	10,4 - 10,6
		0	10,2 - 10,3
l			

Notes

(1) when n

rev/min and gauge pressure -

bar (* maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 5.7 x 1 6. Edition

PES 6 A 90 D 410 RS 2293 Komb.-Nr. 0 400 846 474 RQV 300-1400 AB 1138 L

supersegail4

companyDaimler-Benz

OM 352 A 124 kW (169 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	trok e	(2,1-2,3)	mm (from BDC)			
Rotational speed rev/min 1	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1375	11,3+0,1	7,5 - 7,6	0,3(0,45)			
300	7,6-7,8	0,9-1,5	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Strate Ostroise

Upper rated	speed		Intermediate	rated sp	ved .	Lower rated	speed		Sliding	leeve travel
Degree of deflection of control lever		Control rod ta travel mm rev/m:n 2a	of control	rev/min 5	Control rod trave: mm 4	Degree of deflection of control lever 7	rev/min	Control rod travel	rev/min	mm
max.	1420	16,0-19,4	-	-	-	ca.15		7,6-7,8	500	,9-1,1 ,1-3,4
ca. 61	10,3	1435-1445 1550-1580				350 - 175			1000 ! 1400	,5-5,7 8,2
	1650	0 - 1,0				39				

Yorque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roi Test oil ten rev/min	d stop np. 40°C (104°F) 2	Rotational-speed (20 fimitation intermediate speed rev/min 3	high idle :	very characteristics 5a sceed 5b cm³/1000 strokes	idle switchi	fuel delivery 6 ng point cm³/1000 strokes	Torque- travel rev/min	Control (5) Control rod travel mm
LDA 1375	0,7 bar 75,0-76,0 (73,0-78,0)	1435-1445 *	LDA 500	0 bar 56,0-58,0 (54,0-60,0)	100	71,0-81,0 (68,0-84,0) = 14,3-14,7 mm RW	-	•

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

MB 5.7 x 1

Testatin -

1 375 rev/min decreasing pressure - in bar gauge pressure

ump/governor	Setting	Measurement	Control rod travel difference
	Gauge pressure - bar	Gauge pressure bar	mm (1)
PES 6 ARS 2293	0,70		11,3 - 11,4
mit ".AB 1138 L		0	11,0 - 11,1
		0,28	11,1 - 11,2
			1

Notes

(1) when n

rev/min and gauge pressure =

bar (* maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 5.7 x

8. Edition

PES 6 A 90 D 410 RS 2293

RQV 300-1400 AB 1140 L

supersede5.84 companyDaimler-Benz

Komb.-Nr. 0 400 846 475 engine OM 352 A

124,0 kW (169 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

3	A. Fuel In	jection	Pump Settin	gs			
7-	Port closing at pres	stroke	2,15-2,25 (2,10-2,30)	mm (from BDC)			
4	Rotetional speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
S	rovit an	mm 2	cm³/100 strokes	cm³/ 100 strokes	mm 2	cm ³ /100 strokes	mm
STAYER.	1375	11,3+0,	7,5-7,6	0,3(0,45)			· ·
estoil	300	7,6-7,8	0,9-1,5	0,2(0,4)		 	
S							
-							

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated :	speed	•	Intermediate	rated sp	eed	Lower rated	speed		Sudisa e	leave travel
Degree of deflection of control lever	rev/min Control rod travel mm	travel 🕓	Degree of deflection of control lever	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rad travel mm 3	rev/min	mm (1)
<u> </u>	4400	46 0 40 4	•	5	6	 '	<u> </u>	9	10	11
max.	1420	16,0-19,4	-	-	-	ca. 15	100	min.9,2	250	0,9-1,1
ca. 61	10,3	1435-1445 1550-1580					300	7,6-7,8	600 950 1400	3,1-3,4 5,3-5,5 8,2
	1650	0-1,0		ļ		350-475			1400	0,2
						3 a				

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten rev/min	d stop np. 40°C (104°F) (2)	Rotational-speed ②b timitation intermediate speed rev/min 4a	Fuel delin high idle s rev/min	cm³/1000 strokes	idle	ng paint cm³/1000 strokes	travel	Control od travel mm
LDA 1375	0,7 bar 75,0-76,0 (73,0-78,0)	1435-1445* 700	LDA 500	0 bar 56,0-58,0 (54,0-60,0)	100	71,0-81,0 (68,0-84,0) = 14,3-14,7 mm RW	•	

Checking values in brackets

1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

MB 5,7 x

- 2 -

Test at n =

1375

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure bar	Gauge pressure = bar	mm (1)
PES6ARS2293	0,70		11,3 - 11,4
+ RQVAB1140L		0	11,0 - 11,1
		0,28	11,1 - 11,2

Notes

(1) when n :

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MB 5,7 \times 7

2. Edition

PES 6 A 90 D 410 RS 2293

ROV 300-1400 AB 1141 L

supersedes 5.84

Komb.-Nr. 0 400 846 476

company Daimler-Benz engine OM 352 A

124,0 kW (169 PS)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

2,15-2,25

mm (from BDC)

Rotational speed rev/min 1		Fuel delivery cm³/100 strokes	Difference cm ³ / 100 stroke ²	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1375	11,3+0,1	7,5-7,6	0,3(0,45)			
300	7,6-7,8	0,9-1,5	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed		Intermediate	e rated sp	eed	Lower rated	speed		Sliding 4	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm 28	of control	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min 8	Control rod travel mm 3	rev/min	mm 11
max. ca. 61	1420 10,3 4,0 1650	1550-1580	1	-	-	ca. 15 350-475		min.9,2 7,6-7,8	250 600 950 1400	0,9-1,1 3,1-3,4 5,3-5,5 8,2
						30		,		

Torque control travel a = -

mm

C. Settings for Fuel Injection Pump with Fitted Governor

1 2 3 4 5 6 7 LDA 0,7 bar LDA 0 bar	rav/min 8	mm 9
lane me a me a lane anne lane lane lane lane	18	8
13/5	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

D. Adjustment Test for Manifold Pressure Compensator

MB 5,7 x 7

Testatin =

1375 rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure : bar	Gauge pressure bar	mm (1)
PES6ARS2293	0,70		11,3 - 11,4
+ RQVAB1141L		0	11,0 - 11,1
		0,28	11,1 - 11,2
	•		
· State of the sta			

Notes

(1) when n 🐇

rev/min and gauge pressure =

bar (maximum full-load control rod travel)

Testoil-iSO 4113

NPP 001/4 NWM 6.2 c

4. Edition

PES 6 A 90 D 320/3 RS2393 RS2464

EP/RSV 300-1000 A7 B529DR 325-1500 A2 B529 DR supersedes5.79 company M N M engine TD 226-6

Starting from FD 821, the supplementary idle spring has been changed from 1 424 641 000 to ... 001. New specifications enclosed.

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestruke

2,15 + 0,1

mm (from BDC)

Rotational speed	ceed Control rod Fuel delivery		Difference cm³/ 100 strokes	Control rod travel	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
1000	9	5,1 - 5,5	0,4	2	3	6
. 505	6	1,6 - 2,6	,			
200	9	1,9 - 2,9				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

RSV 300-1000

Upper	rated speed)	Intermediate	rated spe	୧୯	4 Lowe	r rated spe	ed	3 Torque control		
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel mm	
1	2	3	4	5	6	7	8	9	10	11	
ca.68	1000 1050	16,0				ca.28	300	5,5	-	-	
	1100	8,5 2,4	without	auxı	liary spri	ng	100 300	19 - 21 5,7-6,3			
ca.67	1030 1070	8,0-9,0 2,0-4,0	1				450	0 - 1			
	1120	0,3-1,0	with au	xiliaı	ry spring						

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-lo	ad stop				Starting Idle	fuel delivery	Sa) Idi	5a Idle stop	
Test oil temp rev/min 1	1 .	Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes	rev/min	Control rod travel mm 9	
lnstru	tions P. 3-4								

Checking values in brackets

* 1 mm less control rod travel than col. 2

1 Upper Degree of deflection of control lever	rated speed rev/min 2	Control rod travel mm	Intermediate Degree of dellection of control lever		Control rod travel mm	4 Lowe Degree of deflection of control lever	rev/min	Control rod travel mm	(3) To	Control rod travel
ca.58	1500 1580 1630	16,0 9,0 4,2	without	auxil	liary spri	ca.20 ng	325 100 325	5,5 19 - 21 5,7-6,3	-	-
ca.56	1530 1580 1620	8,0-9,0 3,0-4,0 0,3-1,0	with au	xiliar	ry spring		420 520	1,4-3,4 0 - 1		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-li	oad stop			I delivery Startii racteristics Idle		Starting fuel delivery lidle		(5a) Idle stop	
Test oil tem rev/min 1	Note changed to		rev/min	cm ¹ /1 000 strokes 5	rev/min	cm ¹ /1000 strokes 7	rev/min	Control rod travel mm 9	
Instr	uctions P. 3-	4							
			(6a)						

Checking values in brackets

B. Governor Settings

1 Upper	rated speed		Intermediate	rated spe						que control
Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travet mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
					· · · · · ·					
									1	
			1				j			
(5)								•		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

pad stop	6 Rotational- speed limitat				fuel delivery	(5a) Idle stop	
roll temp 40°C (104°F) Note changed to rev/min 2 3		rev/min cm³/1000 strokes 4 5		rev/min cm³/1000 strokes			Control rod travel mm 9
	p 40°C (104°F)	p 40°C (104°F) Note changed to	p 40°C (104°F) Note changed to	speed limitat characteristics p. 40°C (104°F) Note changed to	speed limitat characteristics Idle p 40°C (104°F) Note changed to rev/min rev/min cm³/1000 strokes rev/min	speed limitat characteristics Idle p 40°C (104°F) Note changed to rev/min rev/min cm³/1000 strokes rev/min cm³/1000 strokes	speed limitat characteristics Idle p 40°C (104°F) Note changed to rev/min rev/min cm³/1000 strokes rev/min cm³/1000 strokes rev/min cm³/1000 strokes rev/min

^{* 1} mm less control rod travel than col. 2

C. Settings for Fuel Injection Pump with Fitted Governor

engine po Full-load o Control-ro Test oil tei	lelivery	Rotatio	onal-speed ion	Fuel deliv	very characteristics	Starting Idle switchin	fuel delivery ng point	Intermedi rotational Torque-c travel	speed
rev/min	cm ³ /1000 strokes	rev/mi	ın	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min 8	mm
F 150	PS / 2500 i			 					
1250	87,0-89,0	1270		800	84,0-87,0				
B 143 1250	PS / 2500 84,0-86,0	min-1 1270		800	79,5-82,5				
F 148 1200	PS / 2400 86.0-88,0	min-1 1220		800	84,0-87,0				
B 141 1200	•	1220		800	79,5-82,5				
F 146 1150	•	1170		800	84,0-87,0				
B 139 1150	•	1170		800	79,5-82,5				
A 125 1140	PS / 2300 80,0-83,0	•		1150	74,0-76,0				
F 143 1100	PS / 2200 84,0 - 86,	0		1120	84,0-87,0				
B 137 1100	PS / 2200 81,0-83,0	1120		800	79,5-82,5				
A 134 1090	PS / 2200 80,5-83,5			1100	74,0-76,0				
F 140 1050	PS / 2100 85,0-87,0	1070		800	84,0-87,0				
B 134 1050	82,0-84,0	1070		800	79,5-82,5				
A 122 1040	80,5-83,5			1050	76,0-78,0				
F 135 1000	PS / 2000 86,0-88,0	1020		800	84,0-87,0				
B 130 1000	PS / 2000 81,0-83,0	min-1 1020		800	79,5-82,5				
A 119 990	PS / 2000 80,5-83,5	min-1		-1000	73,0-75,0				
B 123 900	PS / 1800 82,0-84,0	910		750	78,5-81,5				
A 112 890	PS / 1800 89,5-92,5	min-1		- 900	75,0-77,0				
B 110 750	PS / 1500 86,0-88,0	min-1 760		650	74,0-77,0		-A 100 PS	See pa	ge 4

A 100 BHP at 1500 min/1

740 87.5 - 90.5 ----- 750 86.0 - 88.0

The nameplate described on $\frac{MWM}{I.5}$ a has recently been expanded - in columns n = rotational speed and Q = $\frac{I}{IIII}$ fuel delivery - to include two rotational speeds and two fuel deliveries, to enable more exact adjustment in the case of regulators with torque control.

Accordingly - in deviation from VDT-WPP 001/4, 1st addendum, Adjustment of the Regulator and the Pump - the following points will apply:

- (1) Adjustment of the control spring: remains.
- (2) Adjustment of the full-load fuel delivery: in accordance with nameplate, n = (1st rotational speed) and Q = (1st fuel delivery), or according to Sect. C, Columns 1-2.
- (3) Adjustment of the torque control: is adjusted until the control-rod travel is changed as indicated in (2), or according to the new nameplate, until the 2nd fuel delivery is obtained at the 2nd rotational speed; or accordance with Section C, Columns 4-5.
- (6) Start of speed regulation: is readjusted according to the nameplate n = (1st rotational speed + 20 min/1) or Column 3.

 However, for A-power output: readjust until the fuel delivery as shown in Columns 4-5 has been attained.

New pumps from the warehouse in Stuttgart do not have the spring retainer! For that reason, use the old spring retainers, or order new ones from MWM in accordance with the old nameplate!

Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 DAF 8,3 1 4

engine

1. Edition

PE 6 A 90 D 410 RS 2524/Z RSV 250-900 A 7 B 2124 L

company DAF DH 825 (1800)

Komb.-Nr. 0 400 676 165/Z

Values apply to fuel-injection test tubing 1 680 750 015

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

Festoil-ISO 4113

2,3-2,4 (2,25-2,45)

mm (from BDC)

RW = 9.0 - 12.0 mm

Rotational speed	Control rod	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre tensioning (torque-control valve)
rev/min	mm (2)	cm3/100 strokes	cm³/ 100 strokes	mm	cm³/100 strokes	mm
1	2	3	4	2	3	6
750	9,4-9,5	7,9-8,1	0,4 (0,6)			
250	6,3-6,5	1,9-2,5	0,2 (0,55)			
	osing diffe	rence = 1,1-1 21 mm	2 mm betw	een contro	-rod travel 9	mm and

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1()	r rated speed Control rod travel mm 2		Interme	diate rated	speed	Control- lever deflection in degrees 7	Lower rev/min 8	rated speed Control rod travel mm	3 To	rque control Control rod travel mm
loose	800 x =	0,3-1,0	-	-	-	ca.16	250	6,4 min.19	-	-
ca.49	1	10-920 25-945 0,3-1,7					260-320	2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) F	Full-load stop 6 Rotat speed		Fuel delivery characteristics		Starting t	uel delivery (5)	48) Idle Stop		
Test oil t rev/min 1	emp 40°C (104°F) cm ³ /1000 strokes 2	Note changed to) rev/min 3	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes 7	rev/min 8	Control rod travel mm 9	
750	78,5-80,5 /77,0-82,0)	910-920*		-	100	19,5-21,0 mm RW	250	6,4	
**	peed difference	between cor	trol-	rod travel 8,4	mm and	4,0 mm = 1	5-25 n	in/1	

Checking values in brackets

* 1 mm less control rod travel than col. 2

10.84

BOSCH

Geschaftsbereich KH. Kundendienst. Kfz-Ausrustung. c. 1980 by Robert Bosch GmbH. Postfach 50, 0-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en République Fedérale d'Allemagne par Robert Bosch GmbH.

Test Specifications Fuel Injection Pumps and Governors

WPP001/4 KHD 1 g 7

2. Edition

PES5A80D410/3RS2526 RSV 325-1200A8B2147L A8C2147 L 1-3-5-4-2 je $72^{\circ} \pm 0.5^{\circ} (\pm 0.75^{\circ})$

supersedes 9.82 F5L912

Komb.-Nr. 0 400 865 024

65 kW (88 PS) Schlepper DX 30-S 22

Ill test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	troke	1,9-2,0 L.85-2.05)	mm (from BDC)			
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1200	11,5+0	1 6,0 - 6,1	0,2(0,35)		
325	8,9-9,	0,9 - 1,5	0,2(0,3)			

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper	rated speed		Intermediate	rated spe	ed	4 Lowe	rated spe	ed	(3) Tor	que control
Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel
1	2	3	4	5	6	7	8	9	10	11
lose	800	,3-1,0	-	-	-	ca.19	325	8,5	1200	11,5+0,
	,	= 4,5				ļ	325	8,9-9,1	500	12,1+0,
ca. 50		1250 = 10	•5 •0				465-5	25=2,0	950	11,8+0,

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-to	ad stop	6 Rotational- speed limitat.		el delivery tracteristics	Starting Idle	fuel delivery	(5a) Idle stop		
Test ail temp. 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min cm³/1000 strokes 6 7		rev/min 8	Control rod travel mm	
1200	60,0 - 61,0 (58,5 - 62,5)	1240-1250*	800	58,0 - 59,0 (56,5 - 60,5)	100	19,0-21,0 mm RW	-	-	

Checking values in brackets

* 1 mm less control rod travel than col. 2

Festoil-ISO 411

WPP 001/4 KHD 6.1 d

A. Edition

En

PES 6 A 80 D410/3 RS2527 Komb.-Nr. 0 400 866 084 EP/RSV 325-1150 A8 B2014DL

A8 C2014 L

supersedes 4 . 84

company engine

KHD F6 L912

74kW (102PS) bei 2300 min 1

Schlepper DX 110 -

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

S 31

A. Fuel Injection Pump Settings 1,90-2,00 (1,35-2,05) mm

mm (from BDC)

		(1,00 -,00)				
Rotational speed	Control roc'	Fuel delivery 2527	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm ¹ /100 strokes	100 strokes	mm	cm ¹ /100 strokes	mm
1	2	3	4	2	3	6
1150	11,8	5,6 - 5,7	0,2(0,35			
	+0,1					
325	3,9-9,1	0,8 - 1,2	0,2(0,3)			
			Į.	i		
		_				

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper	rated speed		Intermediate	e rated spe	ed	4 Lowe	r rated spe	ed	3 Torque control	
Degree of deflection of control lever	rëv/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
lose	800	0,3-1,0				ca.23	325	8,5	1150	11,8+0,
							325	min.19,5 8,9-9,1	950 775 450	12,0+0, 12,5+0, 12,5+0,
5.58 5		1190-1200 1235-1265 0,3-1,7					390-45	0 = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-16	oad stop	6 Rotational- speed limitat.		el delivery tracteristics	Starting Idle	fuel delivery	(5a) Idle stop		
Test oil tem rev/min 1	cm ³ /1000 strokes	Note: changed to rev/min 3	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min 8	Control rod travel mm	
1150	56,0 - 57,0 (54,5 - 58,5)	1190-1200 *	775	54,0 - 56,0 (52,0 - 58,0)		-	-	-	

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps 2 and Governors

40

WPP 001/4 MAN 11,1p14
3 Edition

En

PES 6 A 95 D 410 LS 2542 Komb.-Nr. O 400 846 424 RO 250/1100 AB 965 DL

supersedes 10.83

company MAN

engine D2566 M/MF

177 kW (240 PS)

Testoil-ISO 4113

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestro	ER .	,5-1,6 ,45-1,65)	mm (from BDC)	
				

		trave! •	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1	1100	12,0+0,1	12,5-12,7	0,3(0,6)			
	250	6,0-6,2	1,1 - 1,7	0,3(0,5)			
			•				
				·	L		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking PRG che	g of slider ck (1)	Full-load : Setting po	•	•	cifications (4)	Idle spec	•		cifications (5)	Torque :	control 3
rev/min 1	Control rod travel mm	rev/min 3	Control rod travel rnm 4	Control red travel mm 5	rev/min 6	rev/min 7	Control rod travel rmm 8	rev/min 9	Control rod	rev/min	Control rod (travel)
600	15,6-16,4	600	16,0	1	1145-1160 1185-1215	i	6,1		min.7,6	-	-
				1300	9- 1,0	1			20=2,0		:
		ļ						500	max. 1,0	ļ	

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation 1,145-1160 min -1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de governor c Test oil terr		Control rod stop 3a	Fuel delive	ery characteristics	Starting for	uel delivery d L Control
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	cm ³ /1000 strokes / mm 7
1100	124,5-126,5 (122,5-128,5)	-	750 500	110,5-113,5 (108,0-116,0) max. 113,5 (max. 116,0)	100	121,5-131,5 (118,5-134,5) = 14,0 - 14,6 mm RW

Checking values in brackets

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MAN 11.1 p 1

7. Edition

estoil-ISO 4113

PES 6 A 95 D 410 LS 2542 Z RQV 250-1100 AB 1038 DL (1) supersedes7 .84 .. LS 2542 RQ 250/1100 AB 1049 DL (2) company: MAN RQ 250/1050 AB 965 DL (3) . IS 2542 engine D2566 Komb.-Nr. 0 400 846 425 (1) MAN-Nr. 1-7960 0 400 846 427 (2) MAN-Nr. 1-7946 (1) MSFV-162 kW/22UU min/1

0 400 846 418 (3) MAN-Nr. 1-7941

(2) MFOR-162 kW/2200 min/1 (3) MF -172 KW/2100 min/1

(1)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres	troke	1,50-1,60	mm (from BDC)	Zy1. 6		·
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
1100	11,3+0,	1 11,3 - 11,5	0,3(0,6)	12,0-12,	12,9 - 13,1	n 1050
250	5,9-6,1	0,8- 1,5	0,3(0,5)	6,5-6,7	1,1 - 1,7	
			<u> </u>	<u> </u>		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed			Intermediate	rated sp	eed		Lower rated	speed	•	Sliding sleeve travel	
Degree of deflection of control lever	rev/min Control rod travel mm	Qontrot rod travel mm rev/min		Degree of deflection of control lever	rev/min 5	Control (travel mm 6	od (Degree of deflection of control lever 7	rev/min	Control rod travel mm 3		mm 11
max.	1140	14,4-17	, 6	-	-	-		ca.13		min.7,5 5,9-6,1 380 =2,0	700	0,5-1,2 4,3-4,6 8,3
ca.42	10,3 4,0 1 <i>3</i> 00	1140-11 1175-12 0 - 1,0	05					39	450	0-1		

Torque control travel a = 0.35

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-roe Test oil ten		Rotational-speed 2b limitation intermediate speed	Fuel delivery characteristics 5a high idle speed 5b			fuel delivery (6)	Terque- travel	control (5)
rev/min	cm ³ /1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	trayel mm
1	2	3	4	5	6	7	8	9+0,1
1100	112, 5-114, 5 (110, 5-116, 5	1140-1150*	700	102, 5-105, 5 (100, 5-107, 5		124,0-134,0	1100 700	11,3 11,7
			500	max. 106,5 (108,5)	250	6,0 mm RW	500	11,7
	<u> </u>				100	-170 (80-190)		

Checking values in brackets

* 1 mm less control rod travel than col 2

Checkin	g of slider	Fell load	speed re	gulation		Idle spe	ed regula	ation		Torque	: :ontrol
PRG che	ck 1	Setting p	oint	Test spe	cifications (4)	Setting	point	Test spe	cifications (5)		(3)
rev/min	Control rod travet mm	rev/min	Control rod travel mm	Control rod travel mm	rev/min	rev/min	Enntrol rod travel	rev/min	Control rod	rev/min	Control rod travel mm
600	15,6-16,4	600	16,0	10,2	1145-1160	250	6,0	100 250	min.7,5 5,9-6,1	845	11,2-11,3 11,2-11,5
	<i>S</i>			4,0	1185-1215				400 =2,0	!	11,4-11,6

Torque control travel on flyweight assembly dimension a

0,3 _{mm}

Speed regulation At

1 mm tess control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

) ??		elivery on ontrol lever p 40 C (104 F)	Control rod step 3a	Fuel deliv	ery characteristics	Starting f	_
•	rev/min 1	cm ⁴ /- 1000 strokes 2	rev/min	rev/min	cm ¹ /-1000 strokes	rev/min	Control rand travel cm 1/1000 strokes / mm
	(2) 1100	112,5 - 114,5 (110,5 - 116,5)		700	102, 5 - 105, 5 (100, 5 - 107, 5)	100	125,0-135,0 (122,0-138,0) = 15,0-16,0mmRW
				500	max. 106,5 (max. 108,5)	250	6,0 mm RW
لـ	Checking va	lues in brackets		1			;

B. Governor Settings

(3)

Checking	g of slider	Full-load	speed re	gulation	_	ldle spe	ed regula	ation	Torque control		
PRG che	ck (1)	Setting po	pirit	Test spec	cifications (4)	Setting	point	Test spe	cifications (5)	1	(3)
rev/min	Control rod travel	rev/min	Control rod travel rmm	Control rod travel mm	rev/min	rev/min	_	rev/min	•	rev/min	Control rod travel
'	2	3	4	5			8	9	10		12
600	15,6-16,4	600	16,0	11,0	1095-1110	250	5,6	100	min. 8,1	-	-
				4,0	1145-1170			250	6,5-6,7		 - -
			 	<u> </u>				375-	415=2,0		.
1250	0 - 1						İ	450	0 - 1		

Torque control travel on flyweight assembly dimension a

nm

Speed regulation, At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	lelivery on control lever np 40°C (104 F)	Control rod stop 3a	Fuel delive	(OL)	Starting f Idle spee	uel delivery d Contid
rev/min	cm ¹ /-1000 strokes	rev/min 3	rev/min 4	cm³/~1000 strokes 5	rev/min	red travel cm ³ /1000 strokes / mm 7
(3) 1050	127,5 - 129,5 (125,5 - 131,5)		500	max. 113,5 (115,5)	100	124,0 - 134,0 6,0 mm RW

En Checking values in brackets

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 MAN 11,1 p 20 3. Edition

En

PES 6 A 95 U 410 LS 2542 Komp.-Nr. 0 400 846 516

RQV 250-1100 AB 1177 DL

supersede5.84 MAN company D 2566 M/NF engine 177 kW/2200 min⁻¹ MAN-Nr. 2-7440

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke (1,45-1,65) mm (from BDC)

Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100 250	12,0+0,1 5,9-6, 1		0,35(0,6) 0,35(0,5)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	1	la	Intermediate	rated sp	1	Lower rated	speed	1	Sliding s	leeve travel
Degree of deflection of control lever		Control rod travel mm rev/min 2a	1.	rev/min 5	control rod travel mm 4	Degree of deflection of control lever	rev/min B	mm 3	rev/min 10	mm 11
max.	1115	15,2-17,8	•	-	-	ca.13		min.8,2	200	0,7-0,9
ca.47	11,0 4,0 1300	1140-1150 1180-1210 0-1,0								3,4-3,8 4,9-5,4 7,6
						39				

Torque control travel a =

mm

C. Settings for Fuel injection Pump with Fitted Governor

Full-load delivery Control-rod stop Test oil temp. 40°C (104°F)		Rotational-speed 2b timitation intermediate speed	Fuel deli high idle :	very characteristics (5a)	Starting idle switchir	,)	Torque- travel	control 5
rev/min 1	cm ³ /1000 strokes	rev/min 4a	rev/min 4	cm ³ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	travel mm 9
1100	124,5-126,5 (122,5-128,5)	1140-1150*	750 500	113,0-116,0 (110,5-118,5 107,5-113,5 (105,0-116,0		121,5-131,5 (118,5-134,5) = 14,7-15,3 mm RW		•

Checking values in brackets

* 1 mm less control rod travel than col. 2

2

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 DAF 6,2 1

3. Edition

PE 6 A 85 D 320 RS2546

Komb.-Nr. 0 400 646 263

RQ 250/1200 AB1023R

supersede9.82

company D A F

DD 615 engine

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers:

A. Fuel Injection Pump Settings

Port closing at prestroke

(2.10-2.30)

mm (from BDC)

Rotational speed	Control rod travel	Fuel delivery cm ³ /100 strokes	Difference cm ¹ / 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (forque-control valve)
1	2	3	4	2	3	6
1000	9,5-9,6	5,1 - 5,2	0,3(0,45			
250	5,9-6,1	0,9-1,5	0,2(0,4)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1	Checking of slider Full-load speed res					idle spec Setting p	•	ation Test spe	Torque control		
rev/min	Control rod travel nim 2		Centrol red travel mm 4	Central red travel mm 5	rev/min 6	rev/min 7	Control red travel rnm 8	rev/min 9	Control rod travel mm 10	rev/min	travel
550	19,2-20,8	550	20,0	8,5 4,0	1245-1260 1310-1340	ļ	6,0	100 250	min.7,5	-	-
VH	max. = 46°			1450	0 - 1,0	l			345 =2,0		
								450	0 - 1	<u> </u>	

Torque-control travel on flyweight assembly dimension a =

Speed regulation A 245 - 1260 min⁻¹

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	701	Starting fuel delivery Idle speed		
rev/min	cm ³ /-1000 atrokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5		rev/min 6	red travel cm ³ /1000 strokes / mm 7	
1000	50,5 - 51,5 (48,5 - 53,5)	•	-	-		100	19,5-21,0 mm RW	

Checking values in brackets

2

Test Specifications Fuel Injection Pumps and Governors



WPP 001/4 DAF 6,2 k 7. Edition

PE 6 A 85 D 320 RS 2546	RQ EP/RSV	250/1300 250-1300	AB A	1023 R B 2025	(1) R(2)	supersede 9.82 company DAF DF 615
KombNr. 0 400 646 255 (1 0 400 676 154 (2	}					engene

Specifications apply to test tubing 1 680 750 015
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

8,1-8,3 1,5 - 2,0 0,2(0,4)

A. Fuel Injection Pymp Settings

Port closing at prestroke (2,10-1,30) mm (from BDC)

- this closing at picsti	(2	,10-1,30/	• • • • • • • • •		.	
Rolational speed	Control rod travel	Fuel delivery	Difference	Control rod travel		Spring pre-tensioning (torque control valve)
rev/min	mm	cm 1/100 strakes	cm ¹ / 100 strokes	mm	cm 1/100 strokes	mm
1	2	3	4	2	3	j6
1000	10,4+0,	1 5,6 - 5,7	0,3(0,45			
!]		į
1		i		l .	1	1

Adjust the fuel delivery from each outlet according to the values in [_____

POrt closing difference between control.rod travel 9 mm B. Governor Settings and max. = $3-4^{\circ}$ camshaft

Checkin	g of slider	Full load	speed re	gulation		Idle speed regulation				Torque control		
	Control rad	Setting point Test specification		cifications Control rod	Setting (Setting point		cifications Control rod		Control rod		
rev/min 1	travel	rev/min 3	red travel mm	rev/min 5	travel mm 6	rev/min 7	rod travel	rev/min 9	travel	rev/min	travel	
550	19,6-20,4 VH max. =	550 46°	20,0	9,4 4,0 1500	1345-1360 1425-1455 () = 1,(6,5	250 300-3	min. 9,7 8,1-8,3 70 =2,0 max. 1,0	-	-	

Torque-control travel on flyweight assembly dimension a

mm

Speed regulation At

1 mm less control rod travet

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load delivery on governor control lever Test oil temp=40°C (104°F)		Control rod stop	Fuel deliv	ery characteristics	Starting 1	Starting fuel delivery		
rev/min 1	cm³/- 1000 strokes 2	rev/min 3	rev/min	cm³/-1000 strokes 5	rev/min 6	cm³/100 strokes		
1000	56,0-57,0 (54,0-59,0)		63		100 (115,0=125,0 112,0=128,0) = 19,5=21,0 inmRW		

Checking values in brackets

12.84

BOSCH

Geschattsbereich KH. Kundendienst. Ktz-Ausrustung. 1980 by Robert Bosch GmbH, Postfach 50, D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprimé en République Fédérale d'Allemagne par Robert Bosch GmbH.

(i)

B. Governor Settings

EP/RSV..2025 R

(Uoper	rated speed		Intermediate	rated spe	ed	(4) Lowe	r rated spi	eed	(3) To	que control
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control fever	rev/min	Control rad travel	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
lose	800	0,3-1,0				ca.21	25 0	5,5		
	X =	4,0					250	5.9-6.1		10,4+0,
ca.67	9,4 4,0	1340-1350 1380-1410					470-	5,9-6,1 530=2,0		10,7+0
(5)	1540	0.3 - 1.7	I .					<u> </u>		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full Id	oad stop	6 Rotational speed limitat		el delivery aracteristics	Starting Idle	fuel delivery	Sa) Idle	stop
rev/min cm³/1000 strokes 2		Note changed to rev/min 3	rev/min	cm ¹ /1000 strokes 5	rev/min	cm³/1000 strokes ?		Control rod travel mm
1000	56,0-57,0 (54,0-59,0)	1340-1350*	•	•	100	115,0-125, (112,0-128, = 19,5-21,0 mm, RW	00)	•

Checking values in brackets

* 1 mm less control rod travel than col. 2

B. Governor Settings

1 Upper Degree of deflection of control lever	deflection of control lever rev/min mm		Intermediate rated speed Degree of Control rod travel of control lever rev/min mm		4 Lower rated speed Degree of deflection of control lever rev/min mm 7 8 9			3 Torque control Control rod travel mm 10		
1	2	3	4	<u> </u> 5	16	/	8			''
⑤										

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-le	pad stop	6 Rotational- speed limitat	(3a) Fuel delivery characteristics		Starting Idle	fuel delivery	5a) Idle stop	
Test oil tem rev/min	cm ³ /1000 strokes	Note changed to rev/min 3	rev/min	cm³/1000 strokes	rev/min	cm³/1000 strokes 7	ļ	Control rod travel mm 9

118

* 1 mm less control rod travel than col 2

[estoil-ISO 4113]

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 DAF 6.2 m 7. Edition

PE 6 A 85 U 320 RS 2546

RSV 250-750 A 7 B 2125 R

supersed A companyDAF

Komb.-Nr. 0 400 676 168

engine DD 575 DF

Specifications apply to test tubing 1 680 750 015

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at pres		2,1 - 2,3)	min (irom BUC)	NW = 9 mm				
Rotational speed	Control rod travel	Fuel delivery	Difference cm ¹ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)		
rev/min	mm	cm ¹ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm		
1	2	3	4	2	3	6		
750	12,1+0,1	62 - 64	0,3(0,45)					
250	8,4-8,6	0,9 - 1,5	0,25(0,45					
			sing diff = 3,5 -			rod travel 9mm		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper	rated speed		Intermediate	rated spe	ed	4 Lower	rated spe	ed	3 Torque control	
Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	Control rod travei mm
1	2	3	4	5	6	7	8	9	10	11
lose	800	0,3 - 1,0	-	-	•	ca. 16	250	8,5	-	-
	x =	4,5					250	8,4-8,6		
© 1.40	11,1 4,0 955	770-780 785-805 0.3-1.7					260-3	20=2,0		

The numbers denote the sequence of the lests 1/2 turn back.

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-lo	oad stop	6 Rotational- speed limitat.			Starting Idle	fuel delivery	5a Idle stop	
Test oil temp 40°C (104°F) rev/min cm³/1000 strokes 1 2		Note: changed to rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes	rev/min 8	Control rod travei mm 9
750	61,5 - 63,5 (59,5 - 65,5)		-	-	100	19,5-21,0 mm RW	•	•

Checking values in brackets

* 1 mm less control rod travel than col. 2

WPP 001/4 DAF 6,2 m 2

1. Eq. .

PE 6 A 85 D 320 RS 2546/x

RSV 250-900 A 7 B 2125 R

supersedes company DAF

Komb.-Nr. 0 400 676 168/x

engine DF 615 (1800)

Specifications apply to test tubing 1 680 750 015

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,10-2,30)

mm (from BDC)bei RW = 9.0 - 12.0 mm

Rotational speed			Difference	Control rod travel	Fuel delivery	Spring pre tensioning (torque control valve)
rev/min	mm 2	cm //100 strokes	cm ^{-/} 100 strokes 4	rum 2	cm·/100 strokes 3	mm 6
750	12,6+0,2	6,7 - 6,9	0,3(0,5)			
250	8,4-8,6	0,9 - 1,5	0,2(0,45)			
		Port cont	closing di ol-rod tra	fference = vel 9 mm ai	0,6 - 0,7 mm d control-rod	etween travel 21 mm.

Adjust the fuel delivery from each outlet according to the values in E

B. Governor Settings

1 Uppe	rated speed		Interm	Intermediate rated speed			Lower rated speed			(3) Torque controf	
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min 3	4	5	6	Control- lever deflection in degrees 7	rev/min 8	Control rod travel mm 9	rev/min	Control rod travel mm	
lose	700	0,3-1,0	-	-		ca. 16	250	8,5] -	~	
	x =	: 					260-320	2,0			
a. 48 (28)	11,6** 4,0 1100	910-920 925-945 0,3-1,7									

The numbers denote the sequence of the tests

** Speed difference between control-rod

trayel 11,6 mm and 4,0 mm = 15-25 min/1 C. Settings for Fuel Injection Pump with Fitted Governor

	ull load stop	Rotational speed limitat		iel delivery naracteristics	Starting (uel delivery 5	40 101	e stop (Control rod
rev/min	emp 40°C (104°F) cm //1000 strokes 2	Note changed to) rev/min 3	rev/min 4	cm ¹ /1000 strokes 5	rev/min	cm//1000 strokes 7	rev/min B	travel mm 9
750	67,0-69,0 (65,5-70,5)	910-920*	-	-	100	19,5-21,0 mm RW	250	8,5

Checking values in brankets

* 1 mm less control rod travel than col 2



40

WPP 001/4 DAF 6,2 m 1 1. Edition

En

PE 6 A 85 D 320 RS 2546/y Komb.-Nr. 0 400 676 168/v

RSV 250-750 A 7 B 2125 R

supersedes companyDAF

engine DF 615 (1500)

Specifications apply to test tubing 1 680 750 015

All test specifications are valid for Bosch Fuel Injection Pump Test Beriches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2,10-2,30)

mm (from BDCbei RW = 9.0-12.0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod trave!	Fuel delivery	Spring pre tensioning (torque control valve)
rev/min	mm 2	cm 1/100 strokes	cm ⁻ / 100 strokes 4	mm 2	cm·/100 strokes	mm 6
750	2,6+0,2	6,7 - 6,9	0,3(0,5)			
250	8,4-8,6	0,9 - 1,5	0,2(0,45)			
		Port cont	closing di rol-rod tra	fference = vel 9 mm a	0,6 - 0,7 mm nd control-rod	between travel 21 mm.

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Uppe	r rated speed		Interme	diate rated	speed	4	Lower	rated speed	(3) to	rque control
Degree of deflection	Control rod travel	Control rod travel				Control- lever		Control rod travet		Control rod travel
of control lever	mm	mm rev/min				deflection in degrees	rev/min	mm	rev/min	mm
1	2	3	4	5	6	ļ′	В	9	10	11
lose	700	0,3-1,0	-	-	-	ca. 16	250	8,5	-	-
	X =						260-320	2,0		
ca. 40	11,6** 4,0 955	770-780 785-805 0,3-1,7								

The numbers denote the sequence of the tests

** Speed difference between control-rod

C. Settings for Fuel Injection Pump with Fitted Governor

	Test oil temp 40°C (104 F) Note			net delivery aracteristics	Starting fuel delivery 5 4a Idle stop			
rev/min	cm ¹ /1000 strokes 2	changed to) rev/min 3	rev/min 4	cm ^{-/} 1000 strokes 5	rev/min 6	cm1/1000 strokes 7	rev/min 8	travel mm 9
750	67,0 - 69,0 (65,5-70,5)	770-780*	-	-	100	19,5-21,0 mm RW	250	8,5

Checking values in brackets

* 1 mm less control rod travel than col. 2

10.84



Geschaftsbereich KH. Kundendienst. Ktz-Ausrustung. 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuttgart 1. Printed in the Federal Republic of Germany Imprime en République Fédérale d'Allemagne par Robert Bosch GmbH.

MPP 001/4 DAF 6,212

3. Edition

En

PE 6 A 90 D 320 RS 2547

RSV 250-1200 A5B 2133 R

Komb.-Nr. 0 400 676 169

A5C 2133 R

Specifications apply to test tubing 1 680 750 015

supersed@s, 82 company DAF engine DT 615

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

ort crossing at pres		(2,15-2,35)	ייטון ווווווו וווווווו	• • • • • • • • • • • • • • • • • •	_	
Rotational speed	Control rod travel	Fuel delivery	Difference cm ¹ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm .	cm ³ /100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
1000	10,8+0,1	7,2 - 7,3	0,3(0,45			
250	5,9-6,1	U,9 - 1,3	0,25(0,4	5)		
			Port rod t	closing ravel 9	difference betw nm and max. =2,	een control- 5-3,5° camshaf

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper	rated speed	1	Intermedisie	eqa baian	ed	(4) Lowe	rated spe	e i	(3) to	que control
Orgren of deflection of control lever	rev/min	Control rod travel mm	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever		Control rod travel	rev/min	Control rod travel
1	2	3	4	5	6	7	8	9	10	11
lose	800	0,3-1,0	-	-	•	ca. 22	250	5,5		10,8+0,
	x =	3,25					250	5,9-6,1	400 300	11,0+0, 11,2+0,
ca.54	9,8 4,0 1490	1240-1250 1310-1343 0,3-1,7				2		5 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-l	oad stop	6 Rotational speed limitat.		el delivery aracteristics	Starting Idle	fuel delivery	5a Idle stop	
Test oil ten rev/min 1	np. 40°C (104°F) cm³/1000 strokes 2	Note: changed to . rev/min 3	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes 7	rev/min	Control rod travel mm 9
LDA 1000	0,7 bar 71,5 - 72,5 (69,5 - 74,5)	1240-1250*	LDA 600	0 bar 54,5 - 53,5 (49,0 - £6,0)	100	135,0 – 145, (132,0 – 148,	0 - 0)	-

Checking values in brackets

* 1 mm less control rod travel than col 2

D. Adjustment Test for Manifold Pressure Compensator

Test at n =

1000

rev/min decreasing pressure - in bar gauge pressure

DAF 6,2 i 2

-2-

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure bar	Gauge pressure bar	mm (t)
DC OF47 with	0.7		10,8 - 10,9
RS 2547 with RSV A5B 2133 R	0,7	0,25	10,6 - 10,7
		0,21	10,1 - 10,4
		0	9,8 - 10,0

Notes

(1) when n

rev/min and gauge pressure

bar (maximum full load control rou travel)

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 DAF 8,3 n 4 1. Edition

PE 6 A 95 D 410 RS 2575/x

RSV 250-900 A 7 B 2124 L

supersedes

Komb.-Nr. 0 400 676 172/x

company DAF

Specifications apply to test tubing 1 680 750 015

engine DH1D 825 (1800)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(1,95-2,15)

mm (from BD bei RW = 9.0 - 12.0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre tensioning (torque control valve)
rev/min	mm 2	cm/100 strokes 3	cm ^{-/} 100 strokes 4	mm 2	cm+/100 strakes 3	arm 6
750	13,2+0,1	11,1 - 11,3	0,4(0,6)			
250	6,0-6,2	0,7 - 1,3	0,2(0,55)			
		Poi cor	t closing (trol-rod t	difference ravel 9 mm	= 0,7 - 0,8 mm and control-ro	between d travel 21 mm

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

1 Uppe	rated speed		Intern	nediate rate	ed speed	(4)	_	rated speed	(3) 1	rque control
Degree of deflection of control lever	travel mm	Control rod travel mm rev/min 3	á	5	6	Control lever deflection in degrees 7	rev/min	Control rod travel mm	revimin	Control rod travel min
lose	700	0,3-1,0	-		-	ca. 16	250	6,1	-	-
	х :	=					260-320	2,0		
ca. 48	12,2 ** 4,0 1100	* 910-920 925-945 0,3-1,7								

The numbers denote the sequence of the tests

** Speed difference between control-rod

travel 12,2 nm and 4.0 mm = 15-25 min/1 C. Settings for Fuel Injection Pump with Fitted Governor

E	ill-load stop emp 40°C (104°F)	Rotational speed limital	39 (uel delivery paracteristics	Starting (uel delivery (5)	(4a) (d)	e stop
rev/min 1	cm ^{1/} 1000 strakes 2	changed to) rev/min 3	rev/min 4	cm:/1000 strokes 5	rev/min	cm v1000 strokes 7	rev/min 8	Control rod travel mm 9
750	110,5-112,5 (108,5-114,5)	910-920*	-	-	100	19,5-21,0 mm RW	250	13,25

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 DAF 8,3 n 3

1. Edition

En

PE 6 A 95 D 410 RS 2575/Z

RSV 250-900 A 7 B 2124 L

supersedes

DAF

Komb.-Nr. 0 400 676 166/Z

company engine DU 825 (1800)

Specifications apply to test tubing 1 680 750 015

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

2,0-2, i Port closing at prestroke (1,95-2,15)

 $^{mm \text{ (from BDC)}}$ bei RW = 9,0 - 12,0 mm

Rotational speed	1		Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (forque-control valve)
rev/min	mm (2)	cm //100 strokes	cm ^{-/} 100 strokes	mm	cm1/100 strokes	mm
1	2	3	4	2	3	6
750	12,5-12,6	10,1-10,3	0,4(0,6)			
250	6,0-6,2	0,7-1,3	0,2(0,55)			
					ļ	
				1		

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings control

Port closing difference = 0,7 - 0,8 mm between control-rod travel 9 mm and control-rod travel 21 mm.

1 Uppe	er rated speed	rev/min	Intermed	liate rated	speed	4	Lower	rated speed	(3) 10	rque control
Degree of deflection of control lever	Control rod travel mm	Control rod travel ภัก rev/min		\		Control- lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
1ose	700 X =	0,3-1,0	-	-	-	ca.15	250	6,1	-	-
	^ =						260-320	2,0	j i	
ca. 48	11,5 4,0 ** 1100	910-920 925-945 0,3-1,7	; ;							

The numbers denote the sequence of the tests

** Speed difference between control-rod travel 11,5 mm and 4,0 mm = 15-25 min/1

C. Settings for Fuel Injection Pump with Fitted Governor

6	III-load stop	6 Rotational speed limitat		uel delivery paracteristics	Starting t	uel delivery 5	(4a) Idi	le stop	
rev/min	emp 40°C (104°F) cm1/1000 strokes 2	Note. changed to) rev/min 3	rev/min 4	cm ¹ /1000 strokes 5	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm	
750	100,5-102,5 (98,5-104,5)	910-920*	-	-	100	19,5-21,0 mm RW	250	6,1	

Checking values in brackets

* 1 mm less control rod travel than col 2

10.84

BOSCH

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Test Specifications Fuel Injection Pumps (A) and Governors

40

WPP 001/4 DAF 6,2 n 1

1. Edition

<u>En</u>

PE 6 A 90 D 320 RS 2577/z

RSV 250-900 A 7 B 2125 R

supersedes

company DAF

engine DT 615 (1800)

Komb.-Nr. 0 400 676 167/z

Specifications apply to test tubing 1 680 750 015

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 2,2-2,3

Port closing at prestroke

183

(2.15-2.35)

mm (from BDCbei RW = 9,0 - 12,0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre tensioning (torque-control valve)
rey/min	mm (2)	cm ¹ /100 strokes	cm ^{-/} 100 strokes	mm	cm1/100 strokes	mm
1	2	3	4	2	3	6
750	11,0-11,1	7,5-7,7	0,4 (0,5)			
250	5,9-6,1	0,8-1,4	0,2 (0,45)			
		Po	rt closing d ntrol-rod tr	ifference	= 0,7 - 0,8 mm	between travel 21 mm

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

	r rated speed Control rod travel mm	rev/min Control rod travel mm rev/min	Intermed	trate rated	speed	Control fever deflection in degrees 7		rated speed Control rod travel mm	9	rque control Control rod travel mm
lose	700 x =	0,3-1,0		<u>-</u>	-	ca. 15	250 260-320	6,0 2,0	-	-
ca. 45	10,0** 4,0 1100	910-920 925-945 0,3-1,7					100	min. 19,		

The numbers denote the sequence of the tests

** Speed difference between control-rod travel 10,0 mm and 4,0 mm = 15-25 min/1

C. Settings for Fuel Injection Pump with Fitted Governor

(2b) Fu	ill-load stop	6 Rotational speed limitat		uel delivery paracteristics	Starting t	uel delivery 5	4a) Idle stop		
Test oil to	emp 40°C (104°F) cm/1000 strokes 2	Note changed to) rev/min	rev/min	cm ¹ /1000 strokes	rev/min	cm ¹ /1000 strokes 7	rev/min 8	Control rod travel mm	
750	75,0-77,0 (73,5-78,5)	910-920*	<u>-</u>	~	100	19,5-21,0 mm RW	250	6,0	

Checking values in brackets

* 1 mm less control rod travel than col 2



1

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 KHD 6,1 k 3 6. Tition

En

PES 6 A 85 D 410/3 RS 2592

RQV 300-1250 AB 1188 L

Komb.-Nr. 0 400 836 028

supersed@n.84
company: KHD
engine: BF 6 L 913
118 kW/2500 min-1

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min 1	mm 2	cm ³ /100 strokes 3	cm ³ / 100 strokes 4	mm 2	cm ³ /100 strokes 3	mm 6
1250	12,0+0,1	8,9 - 9,0	0,3(0,5)			
300	6,9-7,1	0,9 - 1,5	0,25(0,45)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated :	speed		Intermediate	rated sp	eed	Lower rated	speed		Sliding s	leeve travel
	rev/min Control rod travel mm	Control rod travel mm rev/min 2a	of central	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	mm
max.	1290	15,2-17,8	-	-	-	ca. 13		min.8,5		1,5-1,7
ca. 65		1290-1300 1375-1405	-			355-470	300	6,9-7,1		4,9-5,1 7,1-7,3 9,9
_						3e)				

Torque control travel a = 0,8 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter			Fuel deli- high idle :	very characteristics 5a	Starting Idle awitchir		Torque- travel	control 5
rev/min	cm³/1000 strokes	rev/min 48	rev/min cm³/1000 strokes		rev/min	cm³/1000 strokes	rev/min	travel mm
1	2	3	4	5	6	7	8	9
LDA 1250	0,7 bar 88,5-89,5 (86,5-91,5)	1290-1300*	LDA 600	0,7 bar 82,5-84,5 (80,0-87,0)	100	110,-120,0 (107,0-123,0) = 17,1-17,5 mm RW	500 775	12,0+0, 12,8+0, 12,5+0, 12,1+0,
LDA 800	0,7 bar 85,0-88,0 (83,0-90,0)		LDA 500	0 bar 59,0-61,0 (57,0-63,0)				

Checking values in brackets

* 1 mm less control rod travel than col. 2

KHD 6,1 k 3

Test at n

500 rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure 🕾 bar	mm (1)
PES 6 ARS 2592 + RQVAB 1188 L	0,70	0 0,26 0,19	12,8 - 12,9 10,9 - 11,1 12,4 - 12,5 11,9 - 12,1

Notes

(1) when n

rev/min and gauge pressure =

bar (maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MB 4,0 a
1. Edition

En

PES 4 A 90 D 410 RS 2666

RQV 300-1400 AB 1065-5 L

Komb.-Nr. 0 400 844 083

Specifications apply to test tubing 1 680 750 015

supersedes

companBaimler-Benz engine OM 364 66 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel mm	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
1	2	3	4	2	3	6
1400	10,9+0,1	6,4-6,5	0,3(0,45			
300	8,7-8,9	0,8-1,2	0,2(0,4)			7

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated	speed			Intermediate	rated sp	eed	Lower rated	speed		Stiding	leeve travel
Degree of deflection of control lever	rev/min Control rod travel mm	Control rod trave! mm rev/min 3	(1a) (2a)	Degree of deflection , of control lever 4	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever 7	rev/min	Control rod trave: mm 3	rev/min	mm
max.	1500	15,2-17,	8	-	-	-	ca.21		min.10,3	300	0,8-1,3
ca.65		1440-145 1545-157 0-1,0	' 5						8,7-8,9 30 = 2,0	500 750 1500	2,3-2,8 4,1-4,3 8,5
							3a				

Torque control travel a = 1.4 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		intermediate speed	high idle s	very characteristics 5e speed 5b	Starting Idle switchir		Torque- travel	Control rod
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm
1400	63,5-64,5 (61,5-66,5)	1440-1450*	500 900	50,0-53,0 (47,5-55,5) 52,5-55,5 (50,0-58,0)	100	78,0-88,0 (75,0-91,0) = 16,3-16,7 mm RW		10,9+0, 12,3+0, 11,9+0, 11,2+0,

Checking values in brackets

* 1 mm less control rod travel than col. 2

Test Specifications Fuel Injection Pumps ② 2 and Governors

WPP 001/4 KHD 12,7 t 1 2. Edition

PE 8 MW 100/720 LS 1117 RQ 300/1000 MW 52 0 403 548 005

superseder 0.84 company KHĎ engine F8 L 413 F 150 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

RW = 9,0-12,0 mm

		(3,03-3,23)				
Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod	Fuel delivery	Spring pre-tensioning (torque-control valve)
rev/min	mm	cm³/100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1	2	3	4	2	3	6
600	10,7+0,1	9,2-9,4	0,35(0,6			
300	7,1-7,2	1,1-1,5	0,35(0,55			
1000	9,5-9,6	·	0,5(0,7)			
!						
						. •

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	\sim	Full-load			cifications (4)	Idle spec	•		cifications (5)	Torque (control (3)
rev/min 1	Control rod travel mm 2	rev/min 3	Control rod travel mm	Control red travel mm 5	rev/min	rev/min 7	Control rod travel	rev/min 9	Control rod travel	rev/min	travel
520	19,2-20,8	520	20,0	8,5	1045-1060	300	7,1	100	min. 9,1	975	9,5-9,6
120	0 - 1,0			4,0	1080-1110			300	7,1-7,2	650	0,7-10,8
					·						

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	Starting f	
rev/min 1	cm ³ /-1000 strokes 2	rev/min 3	rev/min	cm³/-1000 strokes	rev/min 6	Control red travel cm ³ /1000 strokes / mm
600	92,0-94,0 (90,0-96,0)		1000	87,0-89,0 (84,5-91,5)	100 300 100- 230	140,0-150,0 (137,0-153,0) 11,0-15,0 (8,5-17,5) (80-250)

Checking values in brackets

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 KHD 12.7 t

2. Edition

PE 8 MW 100/720 LS 1117 RQ 300/1000 MW 52-1 0 403 548 009

supersed 0.84 F 8 L 413 FZ

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

3,10-3,20 (3,05-3,25) Port closing at prestroke mm (from BDC)

RW = 9.0-12.0 mm

1	cm³/100 strokes 3	100 strokes	mm 2	cm ³ /100 strokes	mm
11,4+0,	1 10,6-10,8	0,35(0,6)			6
7,5-7,6	1,1-1,5	0,35(0,55)		
10,0+0,	1	0,5 (0,7)		,	
	7,5-7,6		7,5-7,6 1,1-1,5 0,35(0,55	7,5-7,6 1,1-1,5 0,35(0,55)	7,5-7,6 1,1-1,5 0,35(0,55)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	Control rod travel	Full-load : Setting po rev/min 3	•	-	rev/min	Idle spec Setting p rev/min 7	Control red travel		cifications 5 Control rod travel mm	Torque o	Control rod (3)
550	19,2-20,8	550	20,0	9,0	1195-1210	300	7,5	100	min.9,0	1150	10,0-10,1
				4,0	1240-1270			300	7,5-7,6	650	11,4-11,5
1350	0 - 1,0							350-	380 = 2,0	850	10,5-10,8

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

	delivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics 3b	Starting f	uel delivery d Contrai
rev/min	cm ³ /~ 1000 strokes 2	rev/min 3	rev/min	cm ³ /~1000 strokes 5	rev/min 6	contraction red travel cm ³ /1000 strokes f mm
650	106,0-108,0 (104,0-110,0)		1150	96,0-98,0 (93,5-100,5)	100 300 100-2	130,0-140,0 (127,0-143,0) 11,0-15,0 (8,5-17,5) 30 (80-250)

Checking values in brackets

Test Specifications 2 Fuel Injection Pumps 2 WPP 001/4 KHD 12,7 t 2 and Governors

En

(Y)

PE 8 MW 100/720 LS 1117 RQ 300/1150 MW 53 0 403 548 006 1-8-7-2-6-5-4-3 0-45-90-135-180-225-270-315 supersedes 0.84 company KHD

BF 8 L 413 FZT

206 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testars

A. Fuel Injection Pymp Settings

Port closing at prestroke

(3.05-3.25)

mm (from BDC)

RW-9-12 mm

Rotational speed rev/min	Control rod 1 travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
800	13,3+0,1	12,3-12,5	0,35(0,6)			
300 1150 400	7,5-7,6 12,3+0,1 12,4+0,1		0,35(0,55) 0,5 (0,7)	1		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	ig of slider ock	Full-load s	•	•	cifications (4	NI	ed regula point		cifications (5)	Torque o	control (3)
rev/min 1	Control rod travel mm	rev/min 3	Control red travel mm	Control red travel raim 5	rev/min	rev/min	Control red travel rnm 8	1	Control rod travel mm	rev/min	Control rod (travel
	19,2-20,8	_ 600	20,0	11,3 4,0	1195-121 1230-126		7,5	100 300	min.9,1 7,5-7,6	150 800 650	12,3-12,4 13,0-13,3 13,3-13,4

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting f	uel delivery 6
rev/min	cm ³ /~1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	control red travel cm ³ /1000 strokes / mm
LDA 800	0,8 bar 123,5-125,5 (121,5-127,5)		LDA 1150 LDA 400	0,8 bar 118,0-120,0 (115,5-122,5) 0 bar 96,0-98,0 (93,5-100,5)	100 300 100- 230	140,0-150,0 (137,0-153,0) 11,0-15,0 (8,5-17,5) (80-250)

Checking values in brackets

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

300			
Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure - bar	Gauge pressure = bar	mm (1)
LS 1117 mit MW 53	0,8	0,19 0,13 0	13,3-13,4 13,0-13,1 12,6-12,7 12,4-12,5

Notes

(1) when n

rev/min and gauge pressure =

bar (* maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 MAN 17,4 a 5

1. Edition

PE 10 P 110 A 520/5 LS 846

ROV 250-1150 PA 673-1

supersedes. MAN

Komb.-Nr. 0 401 849 183

1-8-7-6-3-5-2-10-9-4 0-27-72-99-144-171-216-243-288-315° ± 0,5° (± 0,75°)

D 2540 MTF 310 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel injection Pump Settings

travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	cm ³ /100 strokes	Spring pre-tensioning (torque-control valve) mm 6
11,5+0,1	13,2-13,5	0,4(0,75)			
6,9-7,1	1,1-1,6	0,45(0,75)		
0,9-7,1	1,1-1,6	0,45(0,75)		
	mm 2 11,5+0,1	mm cm ³ /100 strokes 3 11,5+0,1 13,2-13,5	mm cm ³ /100 strokes 2 100 strokes 4 11,5+0,1 13,2-13,5 9,4(0,75)	mm cm³/100 strokes cm³/ 100 strokes mm 2 11,5+0,1 13,2-13,5 0,4(0,75)	mm cm³/100 strokes cm³/ 100 strokes mm cm³/100 strokes 2 cm³/100 strokes 2 cm³/100 strokes 3 cm³/100 strokes 3

Adjust the fuel delivery from each outlet according to the values in [

B. Governor Settings

Upper rated s	peed		1	Intermediate	rated sp	eed		Lower	rated	speed			Sliding	leeve travel
deflection of control	rev/min Control roditievel mm	travel C	2	Degree of deflection of control lever	rev/min	Control travel mm	rod	Degree deflect of cont lever 7	tion	rev/min 8	Control ro travel mm	od 3	rev/min	mm
max.	1170	15,2-17	,8	-	-	-		ca.	12		min.8			2,0-2,5
ca. 65	10,5 4,0 1450	1310-134	40								16,9-7 160=2,0		850 1150	6,5-6,7 8,4
								39						

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

	d stop np 40°C (104°F) 2	Rotational-speed 2b fimitation intermediate speed	Fuel deli high idle s		Starting Idle switchir		Torque- travel	Control rod
rev/min	cm³/1000 strokes	rev/min	rev/min cm³/1000 strokes r		rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	9
LDA 1150	0,9 bar 132,0-135,0 (129,5-137,5		LDA 750	0,9 bar 122,0-126,0 (119,0-129,0		150,0-170,0 (146,0-174,0		-
			LDA 500	0 bar 115,0-118,0 (112,5-120,5				

Chucking values in brackets

1 mm less control rod travel than col. 2

MAN 17,4 a 5

-2-

Test at n=

500

rev/min decreasing pressure - in bar gauge pressure

300		_	
Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 10 P LS 846 +RQV PA 673-1	0,90	0 0,32	11,5-11,6 11,1-11,2 11,3-11,4

Notes

(1) when n =

rev/min and gauge pressure =

bar (" maximum full-load control rod travel)

K11

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 MAN 17.4 b 9

1. Edition

PE 10 P 120 A 520/5 LS 850-1

RQ 750 PA 663-3

supersedes.

company MAN

1- 8- 7- 6- 3 - 5 - 2 - 10- 9 - 4 0-27-72-99-144-171-216-243-288-315° + 0,5 ° (+ 0,75 °)

D 2540 MLE 283 kW

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

Komb.-Nr. 0 401 849 174

A. Fuel Injection Pump Settings

Port closing at prestroke

(2.95-3.15)

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	11,9+0,1	19,5-19,7	0,5(0,9)			
250	4,4-4,6	1,4-2,0	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkine PRG che	g of slider	\bigcirc	Full-load :		_	cifications (4)	idle spec	•		cifications (5)	Torque o	
_	Control rod	U	rev/min 3	Control rod travel mm 4	Central rad travel rnm 5	rev/min	rev/min 7	Control rod travel	rev/min 9	Control rod	rev/min	Control rod travel mm
•	•		-	-	10,9 4,0 950	750-755 776-789 0 - 1,0	-	.	-	-	-	-
Forque-c	ontrol travel							7:	50-75	min 1		1 mm less contro

on flyweight assembly dimension a =

Speed regulation: At

rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on ontrol lever np. 40°C (104°F)	Control rod stop 3a	Fuel delive	ery characteristics 3b	Starting f	uel delivery
rev/min	cm ³ /-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strakes 5	rev/min 6	cm ³ /1000 strokes/ mm
700	195,0-197,0 (192,0-200,0)	-	-	-	-	-

Checking values in brackets

Test Specifications 2 Fuel Injection Pumps 2 and Governors

WPP 001/4 MAN 14,5 a 1. Edition

RQ 250/1150 PA 688 PE 8 P 110 A 320 LS 851 Komb.-Nr. 0 401 848 082 1-8-7-2-6-3-5-4 je 45° ± 0,5° (± 0,75°)

supersedes~ company D 2848 T engine 245 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(2.95-3.15)

mm (from BDC)Zv1 8

		2,50 0,707		.,		
Rotational speed rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	10,8+0,1	14,3-14,5	0,4(0,75)			
250	4,9-5,1	1,8-2,4	0,45(0,79)		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin	g of slider	Full-load	speed re	gulation	_	Idle spe	ed regula	ation		Torque o	control
PRG che	ck (1	Setting p	oint	Test spe	cifications (4)	Setting	point	Test spe	cifications (5)		(3
rev/min	Control rod travel mm 2	rev/min	Control red travel rnm 4	Control red travel rmm	rev/min	rev/min 7	Control rod travel mm	rev/min	Control rod	rev/min	Control rod Control
600	19,2-20,8	600	20,0	9,8	1195-1210	250	5,0	100	min.6,5	1150	10,8-10,9
VH =	max. 40°			4,0 1450	1280-1310			250 310-	4,9-5,1 350 = 2,0		10,8-11,0
		:									
forque-c	ontrol travel		0				1	195-1	210 min-1		1 mm less contr

on flyweight assembly dimension a =

Speed regulation: At

rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop (3a)	Fuel deliv	ery characteristics	Starting f	d Control
rev/min 1	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	red travel cm ³ /1000 strokes:/ mm 7
LDA 1150	1,0 bar 143,0-145,0 (140,5-147,5)	-	LDA 700 LDA 500	1,0 bar 140,0-144,0 (137,0-147,0) 0 bar 108,0-110,0 (105,5-112,5)	100 250	185,0-205,0 (181,0-209,0) 18,0-24,0 (15,5-26,5)

Checking values in brackets

MAN 14,5 a

fest at n=

500

rev/min decreasing pressure - in har gauge pressure

500			
Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure	bar Gauge pressure	bar mm (1)
PE8PLS851 + RQPA688	1,0	0 0,29 0,23	10,8-10,9 9,7-9,8 10,5-10,6 9,9-10,1
t	L	 . 1	

Notes

(1) when n

rev/min and gauge pressure

bar (maximum full load control rod travel)

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 CAT 7,0 b

1. Edition

PES 4 P 80 A 720 LS 852 Komb.-Nr. 9 400 087 301

RQV 350-1000 PA 609-1

supersedes

company C. engine 3:

Caterpillar 3304 T 107 PS

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
ev/min	mm	cm³/100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
	2	3		2	3	 °
1000	12,2+0,1	10,7-10,8	0,25(0,35)		
350	6,7-6,9	1,0-1,7	0,2 (0,3)			
			Į			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed	•		Intermediate	rated sp	eed	Lower rated	speed		Stidena s	leeve travel
deflection of control	rey/min Control rod travel mm	Control rod travel mm rev/min	(a) (2a)	Degree of deflection of control lever	rev/min	Control rod travel mm (4)	Degree of deflection of control lever	rev/min	Control rod travel	reviran	mm (1)
1	2	3		4	5	6	7	8	9	10	11
max.	1010	15,2-17	7,8	-	-	-	ca. 17	100	min.11,5		
ca. 68	10,2 4,0 1200	1030-10 1110-11 0-1,	140					350 530-	6,3-6,6 590 = 2,0		
							(3a)				

Torque control travel a = 1,0 mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ten	d stop np. 40°C (104°F) 2	limitation intermediate speed	high idly s	very characteristics 5a	Starting Idle switchir		Torque- travel	Control (5) Control rnd
rev/min	cm³/1000 strokes	rev/min 4a)	re://min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	mm
1	2	3	4	5	6	7	8	9
1000	106,5-107,5 (105,0-109,0)	1030-1040*	700 500	113,0-115,0 (111,0-117,0) 109,0-112,0 (107,0-113,0)		17,6-18,6 mm RW		12,2+0,1 12,7+0,2 13,1+0,6 13,2+0,1

Checking values in brackets

* 1 mm less control rod travel than col. 2

12.84

K15

BOSCH

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Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 SCA 11,0 m 1

4. Edition

Testoil-ISO 4113

PE 6 P 110 A 720 RS3006

RQV 200-1100 PA283KR

supersedes 84 company Scania engine DS 11

Please note instructions on sheet 2.

All test specifications are valid for Boach Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

3,30-3,40 Port closing at prestroke (3.25-3.45) mm (from 8DC

Rotational speed rev/min 1	Control rod travel mm 2	25-3.45) Fuel delivery cm³/100 strokes 3	Cifference cm ³ / 100 strokes 4	Control red travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1100	14,0+0,1		0,6(0,8)			2,5 ± 0,1 (max. 2,2-2,9)
225	5,7-5,9	0,9-1,3	0,2(04)			

Adjust the fuel delivery from each outlet according to the values in ____

B. Governor Settings

Upper rated t	peed			Intermediate	rated sp	eed	Lower rated	speed		Cliding	lanua tanuat
Degree of deflection of control lever	rev/min Control rod travel mm 2	Control rod travel mm rev/min (©	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	sav/min 10	mm
max.	1100	15,2-17	,8	-	-	•	ca. 11	100 225	min.7,4 5,7-5,9	300 800	2,0-2,8 5,2-5,6
ca. 63	12,9 4,0 1400	1140-11 1270-13 0 - 1	00				(3e)	335-3 650	95 = 2,0 0 - 1	1150	

Torque control travel a =

mm Sp. 10-11 -

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		intermediate speed	high idle s	very characteristics (5a)	Starting Idle switchir		Torque- travel	control 5
rev/min 1	cm³/1000 strokes 2	rev/min 44)	rev/min 4	cm ³ /1000 strokes	rev/min 6	cm ³ /1000 strokes	rev/min 8	travel mm 9 ·
LDA 1100	0,7 bar 177,0-179,0 (174,0-182,0)		LDA 850 LDA 500	0,7 bar 154,0-160,0 (151,0-163,0) 0 bar 133,0-137,0 (130,0-140,0)	RW 6 Streu	190 - 240 9 - 13 ** : 26,5-36,5 g. max.4 (6)	1100 850 600	13,9

Checking values in brackets

* 1 mm less control rod travel than col. 2

rev/min decreasing pressure - in har gauge pressure Test at n 850 Control rod (raver X)(m)(nution Pump/governor Setting Measurement XXXXXXXXXXX Gauge pressure * bar mm Gauge pressure = 3006 mit 283KR 0,40 12,8 - 12,90,25 11,9 - 12,0 14,0 - 14,1 11,8 - 11,9 1,0

NS: SXXXXXXX

Notes:

- 1. Start-of-delivery test without, fuel delivery test with Robo diaphragm.
- 2. After full-load setting, set stop screw in manifold-pressure compensator housing to 0.5 mm control-rod travel more than full-load control-rod travel.
- 3. Additional start test: At n = 0 min $^{-1}$ and with control lever vertical, operate start knob = 20 21 mm control-rod travel must be reached.
- 4. ** In case of large scatter, correspondingly change preload of valve spring.
- 5. High idle ***: Raise engine speed until control-rod travel of 6 mm is reached and measure scatter.

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 SCA 14,0 c 1 6. Edition

<u>En</u>

PE 8 P 110 A 920/4 LS 3020

RUV 250-1000 PA 306-2 R

supersede 5.83

company Saab-Scania

engine US 14 01

Komb.-Nr. 0 401 848 717

1 - 2 - 7 - 3 - 4 - 5 - 6 - 8 je $45^{\circ} + 0.5^{\circ}$ (+0.75°)

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1000	13,5+0,1	16,3 - 16,5	0,6(0,8)			$3,3 \pm 0,1$
225	4,4-4,6	1,5 - 1,9	0,2(0,4)			(3,0 - 3,5)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated a	peed	,	Intermediate	rated sp	eed	Lower rated	speed		Slidings	ieeve travel
deflection of control	rev/min Control rod travel mm	Control rod travel mm rev/min (2a)	of control	rev/min	Control rod travel mm 4	Degree of deflection of control lever	rev/min	Control rod travel mm 3	rev/min	0
<u> </u>	243433	45 0 47				1	 	 		
max.	1000	15,2-17,8	§ -	-	-	ca. 10	100	min. 5,9	200	1,0-1,2
ca. 61	12.5	1040-1050	1			}	250	4,4-4,6	470	3,4-3,8
		1150-1180	ļ			<u> </u>	250	110=2.0	730	5,1-5,3
	1300	0 - 1,0				ļ	330-4	+10=2,0	1000	7,7
,			}	!						','
					<u> </u>	39				

Torque control travel a ≈

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-roo Test oil ten		Rotational-speed 2b timitation intermediate speed	Fuel delic	rery characteristics 5a	idle	fuel delivery 6	Torqua-	çanirol (5) Control rod
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm²/1000 strokes	rev/min	travel mm
LDA 1000	0,7 bar 163,0-165,0 (161,0-167,0		LDA 600 LDA 500	U,7 bar 165,5-1 70, 5 (163,0-17 3 ,0) 0 bar 127,0-131,0 (125,0-133,0)	100	240,0-290,0 = 20,0-21,0 mm RW		•

Checking values in brackets

* 1 mm less control rod travel than col. 2

12.84

BOSCH

SCA 14,0 c 1 - 2 -

Test at n -

500

rev/min decreasing pressure - in har gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure bar	Gauge pressure bar	mm (1)
PE 8 PLS 3020 + RQVPA 306-2 R	0,70	0 0,45 0,32	13,5 - 13,6 12,0 - 12,1 13,1 - 13,2 12,2 - 12,4
			SCA 11,0 y 1

Notes

(1) when n =

rev/min and gauge pressure = bar (maximum full-load control rod travel)

SUPPLEMENTARY INFORMATION

- Checking and adjustment without a ROBO diaphragm
- For combination with letter index see VDT-I-400/116
- For sealing, see VDT-I-400/117
- Test specifications approved by Scania on 16.4.1984
- Start of fuel delivery-engine:
- 20° before TDC
- Firing sequence, engine
- 1-5-3-6-2-4

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps 1 and Governors

WPP 001/4 Vol.12,0c

7. Edition

PE 6 P 120 A 320 RS 3032

ROV 250-1100PA355/2R

supersede 3.83 company Volvo

engine TD 120 C

Komb.-Nr. 0 401 846 707

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 0 67
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

mm (from BDC) Port closing at prestroke Zv1. 6

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery 3032 cm ³ /100 strokes 3	Difference cm ³ / 100 strokes	Control rod travel mm 2	Fuel delivery 3032Y cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	12,0-12,1	20, 9 - 21, 1	0,4(0,8)			2,5 <u>+</u> 0,1**
250	5,3-5,5	0,9-1,3	0,3(0,6)			(max.2,2-2,9)
			<u></u>			

Adjust the fuel delivery from each outlet according to the values in

** In case valve-spring spread is higher, change the initial tension accordingly.

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp	ed	Lower rated	speed	•	Sliding s	leeve travel
deflection	Control	Control rod (a	0000		Control rod travel	Degree of deflection		Control rod travel		0
1.	rod travel mni	mm rav/min (28	of control	rev/min	mm (4)	of control lever	rev/min	mm ③	rev/min	ww
1	2	3	4	5	6	7	8	9	10	11
max.	1100	15,2-17,8	-	-	-	ca.10	i	mind.6,8	350	1,4-2,0
ca. 45	11.0	1140-1150			}		250	5,3-5,5	650	3,7-4,0
	4,0 1320	1225-1255	1				300-3	360=2,0	1170	8,3
					ļ !	39				

Torque Control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

}	d stop np. 40°C (104°F) 2	timitation intermediate speed	Fuel deliv high idle s rev/min		idle switchli	<u> </u>	Torque- travel	Control 5 Control rod travel
rev/min 1	cm ³ /1000 strokes	rev/min 3	4	5	6	7	В	9
LDA 700	0,9 bar 2 ⁰ 9,0-211,0 (206,0-214,0)	1140-1150*	LDA 700	0 bar 137,0-141,0 (135,0-145,0)	250	410,0-460,0 9 - 13 ** ung max.3(6)	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

500	XXXXXX	T	•
^P ump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure - bar	Gauge pressure - bar	mm (1)
	0,90		12,0 - 12,1
3032 + 355/2R		0,55 0,14	11,4 - 11,5 9,2 - 9,4
		o o	9,1 - 9,2

Notes

(1) when n =

rev/min and gauge pressure

bar (- maximum full-load control rod travel)

En

Test Specifications Fuel Injection Pumps (1) and Governors

WPP 001/4 SCA 8,0 h 6. Edition

En

PE 6 P 110 A 720 RS 3034

RQV 200-1200 PA 529

Komb.-Nr. 0 401 846 732

company SCania engine DSI 801

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

rev/min 1	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel rnm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	13,2+0,1	12,9 - 13,1	0,5(0,7)			2,5 + 0,1
225	5,5-5,7	1,2 - 1,6	0,2(0,4)			(2,2 - 2,9)

Adjust the fuel delivery from each outlet according to the values in

** In case valve-spring spread is higher, change the initial tension accordingly.

B. Governor Settings

Upper rated s	speed		Intermediat	e rated sp	eed		Lower rated	speed		Charac	
Degree of deflection of control	rev/min Control rod travel	mm -	Degree of deflection of control		Control re	od 🙃	Degree of deflection of control		Control rod travel	Siloing	sleeve travel
1 1	mm 2	rev/min (2 3	a) lever 4	rev/min 5	mm 6	•	lever 7	rev/min 8	nm (3	rev/min	mm 11
max.	1200	15,2-17,	8 -	-	-		ca. 14		min.7,0		0,5-0,8
ca. 64	12,2 4,0	1240-1250 1395-1425							5,5-5, 50 = 2,0	850	3,7-4,3 6,2-6,4
ļ	1550								•	1200	8,6
					<u> </u>		3a				

Torque control travel a =

mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b timitation intermediate speed	Fuel deli high idle :	very characteristics (5a)	Starting Idle switchir		Torque- travel	Control red
rev/min 1	cm³/1000 strokes	rev/min 4a 3	rev/min	cm³/1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	travel mm 9
LDA 700	0,9 bar 129,0-131,0 (127,0-133,0		LDA 1200 LDA 500	0,9 bar 133,5-138,5 (131,0-141,0 0 bar 79,0-83,0 (77,0-85,0)	100	190,0-240,0 = 20,0-21,0 mm RW	_	6

Checking values in brackets

* 1 mm less control rod travel than col. 2

- 2 -

D. Adjustment Test for Manifold Pressure Compensator

SCA 8,0 h

Testatn

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting Gauge pressure bar	Measurement Gauge pressure bar	diminution Control rod travel difference mm (1)
PE 6 PRS 3034 + RQVPA 529	0,90	0 0,44 0,29	13,2 - 13,3 11,3 - 11,4 12,7 - 12,8 11,7 - 11,9
			SCA 11,0 y 1

Notes

(1) when n

revinan and gauge pressure =

bar (maximum full-load control roil travel)

SUPPLEMENTARY INFORMATION

- Checking and adjustment without a ROBO diaphragm
- For combination with letter index see VDT-I-400/116
- For sealing, see VDT-I-400/117
- Test specifications approved by Scania on 22.8.1983
- Start of fuel delivery-engine:

17° before TDC

- Firing sequence, engine

1-5-3-6-2-4

Test Specifications Fuel Injection Pumps 2 and Governors

40

WPP 001/4 SCA 11,0 r 1 6. Edition

n

PE 6 P 110 A 720 RS 3040 Komb.-Nr. 0 401 846 717

RQ 250/1100 PA 411 R

supersedes 3.84 company Scania engine DS 11 01

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed	Control rod travel	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve mm
1	2	3	4	2	3	6
600	13.0+0.	1 16,1-16,3	0,6(0,8)			3,3+0,1
225	4,4-4,	6 1,7-2,1	0,2(0,4)			(3,0-3,5)

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	Control rod travel	Full-load s Setting po rev/min 3	•	•	rev/min	Idle spei Setting p rev/min 7	Control rad travel		cifications 5 Control (vid travel (mm	Torque o rev/min 11	Control rod (3) travel mm
700	15,6-16,4	700	16,0	12,0 4,0 1350			4,5	225	min. 5,9 4,4-4,6 340 =2,0	-	-

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation: At 1145-1160min

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

	letivery on control tever np. 40°C (104°F)	Control rod stop (3a)	Fuel deliv	ery characteristics 3b	Starting f	uel delivery ed 6
rev/min	cm` ¹ -1000 strokes	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	r e v/min 6	cm ³ /1000 strokes / mm 7
LDA 600	0,9 bar 161,0-163,0 (159,0-165,0)	-	LDA 1100 LDA 500	0,9 bar 153,5-158,5 (151,0-161,0) 0 bar 128,0-132,0 (126,0-134,0)	100	240,0-290,0 =20,0- 21,0 mm RW

Checking values in brackets

1.85

BOSCH

Deschaftsbereich RH. Kundendrenst. Kfz: Ausrustung ⊂ 1980 by Robert Bosch GmbH. Postfach 50. D-7000 Stuffgart t. Printed in the ≻ੁ≦ਾਸੀ Republic of Germany morime en République Fédérale d'Allemagne bar Robert Rosch, GmbH.

Test at n

500

rev/min decreasing pressure - in bar gauge pressure

SCA 11,0 r 1

Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure = bar	Gauge pressure : bar	mm (1)
PE 6 P RS 3040 +RQ PA 411 R	0,90	0 0,37 0,25	13,0-13,1 11,7-11,8 12,7-12,8 11,8-12,0

Notes

(1) when n =

rev/min and gauge pressure = bar (" maximum full-load control rod travel)

SCA 11,0 y 1

SUPPLEMENTARY INFORMATION

- Checking and adjustment without a ROBO diaphragm
- For combination with letter index see VDT-I-400/116
- For sealing, see VDT-I-400/117
- Test specifications approved by Scania on 29.8.1984
- Start of fuel delivery-engine: 20° before TDC

- Firing sequence, engine : 1-5-3-6-2-4

Test Specifications Fuel Injection Pumps (A) and Governors

WPP 001/4 SCA 11,0 r 6. Edition

En

PE 6 P 110 A 720 RS 3040 Komb.-Nr. 0 401 876 720

RSV 350-1100 P1/481

supersedf 3.84 Scania company DS 11 05 engine Case

Please note instructions on sheet 2.

TIONS ON SNEET 2.

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(3,25-3,45)

mm (from BDC)

= RW 9,0-12,0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rod travel	Fuel delivery	Spring pre tensioning (torque-control valve)
tes/win	mm (2)	cm 1/100 strokes	cm ^{-/} 100 strokes	mm	cm ^{-/} 100 strokes	mm
1	2	3	4	2	3	6
1100	13,1+0,1	15,6-15,8	0,6(0,8)			$\begin{array}{c} 3,3 & \stackrel{+}{\sim} 0,1 \\ (3,0 & -3,5) \end{array}$
350	4,4-4,6	1,8-2,2	0,2(0,4)			(3,0 - 3,5)
						Ì

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

(1) Uppe	er rated spee	ed rev/min	Interme	diate rate	d speed	(4)	Lower	rated speed	(3) 10	rque control
Degree of deflection of control lever	Control root travel mm	Control rod travel mm rev/min				Control- lever deflection in degrees	rev/min	Control rod travel mm	rev/min	Control rod travel mm
<u> </u>	2	3	4	5	6	<u> </u>	8	9	10	11
lose	800	0,3-1,0	-	-	-	ca.30	350	4,0	-	-
	x =	2,75					1		ł	
ca. 66	12,1 4,0 1350	1140-1150 1210-1240 0,3-1,7					350 440-500	4,4_4,6 = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

	ill-load stop	6 Rotational- speed limitat	11361	uel delivery naracteristics	Starting Idle	fuel delivery 5	(4a) ld	le stop
Test oil to rev/min 1	emp 40°C (104°F) cm1/1000 strokes 2	Note changed to) rev/min 3	rev/min 4	cm ^{1/1000} strokes 5	rev/min	cm ³ /1000 strokes	rev/min 8	Control rod travel mm
1100	156,0-158,0 (154,0-160,0)	1140-1150*	7 00	156,5-161,5 (154,0-164,0)	100	240,0-290, = RW 20,0 21,0 mm		-
					350	18,0-22,0		

Checking values in brackets

* 1 mm less control rod travel than col 2

BOSCH

SUPPLEMENTARY INFORMATION

- Checking and adjustment without a ROBO diaphragm
- For combination with letter index see VDT-I-400/116
- For sealing, see VDT-I-400/117
- Test specifications approved by Scania on 29.8.1984

- Start of fuel delivery-engine: 20° before TDC

- Firing sequence, engine : 1-5-3-6-2-4

Test Specifications Fuel Injection Pumps 1 MPP 001/4 SCA 11,0 r6 and Governors

3. Edition

PE 6 P 110 A 720 RS 3040 Komb.-Nr. 0 401 846 763 ROV 200-1000 PA 555-1

supersettes 83

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke mm (from BDC)= RW 9.0-12.0 mm

Rotational speed	Control rod travel	Fuel delivery cm ³ /100 strokes	Difference cm ³ / 100 strokes	Control rod travel	Fuel delivery cm ³ /100 strokes	Spring pre-tensioning (torque-control valve)
1	2	3	4	2	3	6
700	13,6+0,	16,8-17,0	0,6 (0,8)			3,3 ⁺ 0,1 (3,0-3,5)
225	4,4-4,	1,7-2,1	0,2(0,4)			
	1					İ
	19	1				1

Adjust the fuel delivery from each outlet according to the values in F

B. Governor Settings

Upper rated speed Inter			Intermediat	e rated sp	eed	Lower rated	speed	Sliding sleeve travel		
deflection of control	rev/min Controt rod travel mm	Control rod (1) travel mm rev/min (2)	Degree of deflection of control lever	rev/min 5	Control rod travel mm 4	Degree of deflection of control lever	rev/min 8	Control rod travel mm 3	rev/min	mm
max. ca. 60		15,2-17,3 1040-1050 1155-1185 0 -1,0	3 -	-	-	ca.10	225	min. 5,9 4,4-4,6 70⊒2,0	159 430 720 1000	0,5-0,8 3,1-3,6 5,1-5,4 7,9

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load of Control-ro Test oil ter		Rotational-speed 2b limitation intermediate speed	Fuel deli- high idle s	very characteristics 5a speed 50	Starting Idle switchi		Torque travei	Control rod
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes 5	rev/min 6	cm ³ /1000 strokes	rev/min 8	travei mm 9
LDA 700	0,9 bar 168,0-170,0 (166,0-172,0)	1040-1050*	LDA 1000 LDA 500	0,9 bar 171,5-176,5 (169,0-179,0) 0 bar 133,0-137,0 (131,0-139,0)		240,0-290,0 =RN 20,0- 21,0 mm	-	-

Chucking values in brackets

* 1 mm less control rod travel than col. 2

Test at n -

500

rev/min decreasing pressure - in bar gauge pressure

SCA 11,0 r 6

-2-

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = ba	r Gauge pressure = bar	mm (1)
PE 6 P RS 30	040 0,42		13,2-13,3
+ ROV PA 55	55-1	0,90	13,6-13,7
		o	12,0-12,1
		0,29	12,3-12,5
latas			' SCA 11;0 у 1

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

SUPPLEMENTARY INFORMATION

- Checking and adjustment without a ROBO diaphragm
- For combination with letter index see VDT-I-400/116
- For sealing, see VDT-I-400/117
- Test specifications approved by Scania on 29.8.1983
- Start of fuel delivery-engine:

19° before TDC

- Firing sequence, engine

1-5-3-6-2-4

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps (2) and Governors

WPP 001/4 MB 14.6 q 1

Edition

PE 8 P 120 A 320 LS 3807 Komb.-Nr. 0 401 848 747 RO 300/1150 PA 511-2

supersedes 83 Daimler-Benz

company OM 422 LA

276 kW (375 PS)

1 - 8 - 7 - 2 - 6 - 3 - 5 - 4 je $45^{\circ} \pm 0.5^{\circ} (\pm 0.75^{\circ})$ Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Rump: Settings

Port closing at prestroke

(3.95-4.15)

mm (from BDC) Zy1. 8

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm
900	11,6+0,	18,9 - 19,1	0,5(0,9)			
300 1150 600 500	4,8-5,0 - - -	1,2 - 2,0 C, Sp.1u. 2 C, Sp.4u. 5	1			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	g of slider	Full-load : Setting po	•	•	cifications (4)	Idle spec	•		cifications (5)	Torque d	control 3
rev/min 1	Control rod travel mm 2	rev/min 3	Control red travel mm 4	Control red travel mm 5	rev/min	rev/min 7	Control rod travel rnm 8	rev/min 9	Control rod travel mm	rev/min	Control rod Control rod
000 VH:	19,1 -20 = max. 46	3 600	19,9	10,6 4,0	1195-1210 1250-1280	300	4,3	300	min.6,0 4,2-4,4 75 =2,0	-	-
orane-c	ontrol travel				<u> </u>			119	5 - 1210	nin	1 mm less contro

Torque-control travel on flyweight assembly dimension a =

Speed regulation: At

1 mm less control

C. Settings for Fuel Injection Pump with Fitted Governor

rev/min cm³/-1000 strokes rev/min rev/min cm³/-1000 strokes rev/min cm	governor	lelivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	Starting t	fuel delivery
900 189,0 - 191,0 600 182,0 - 186,0 (136,0-164,0) (186,0 - 194,0) LDA 0,7 bar LDA 0 bar	rev/min 1	cm³/-1000 strokes	rev/min	rev/min	cm ³ /-1000 strokes 5		cm ³ /1000 strokes/mm 7
	900 LDA	189,0 - 191,0 (186,0 - 194,0) 0,7 bar 185,0-189,0		600	182,0 - 186,0 (179,0 - 189,0) 0 bar	•	140,0 - 160,0 136,0-164,0)

Checking values in brackets

9.83

Geschäftsbereich KH. Kundendienst. Kfz. Ausrüstung.
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MB 14,6 g1

- 2 -

Test at n =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure bar	Gauge pressure = bar	mm (1)
PE 8 PLS 3807	0,44		11,1 - 11,3
+ RQPA 511-2	İ	0,70	11,6 - 11,7
		o	10,1 - 10,2
		0,34	10,3 - 10,4

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

40

WPP 001/4 MB 21,9 b 1

3. Edition

PE 12 P 120 A 320 LS 3819-2 RQV 350-1050 PA 493

1 - 5 - 9 - 8 - 3 - 4 - 11-10 - 2 - 6 - 7 - 12

 $0 -15 -60 -75 -120 -135 -180 -195 -240 -255 -300 -315^{\circ} \pm 0,5(\pm 0,75)$

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067.

supersedes 10.83

Daimler-Benz

om 424 A
engine 357 kW (485PS)

Komb.-Nr. 0 401 840 711

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

4,00-4,10 (3,95-4,15) mm (from BDC) cyl.12

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1050	10,2+0,1	15,1-15,3	0,5(0,8)			
350	4,6-4,8	1,2- 1,8	0,8(1,2)			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated: Degree of defisction of control lever	rev/min	Control rod travel mm rev/min (2a)	Intermediate Degree of deflection of control lever	rated sperior	Control rod travel mm 4	Lower rated Degree of deflection of control lever 7	speed rev/min 8	Control rod travel mm 3	Sliding s rev/min 10	mm
max.	1180	15,2-17,8	-	-	-	ca.10	100	min.6,2	300	0,9-1,1
ca.56		1085-1095 1165-1195 0 - 1,0				360-500 3a)	350	4,6-4,8		3,4-3,6 4,7-4,9 6,8

Torque control travel a =

mn

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load de Control-ros Test oil ten			Fuel deliv high idle s	ery characteristics 5a peed 5b	Starting Idle switchin	•	Torque- trave ^u	Control 5 Control roc travel
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min 8	mm 9
LDA 1050	0,6 bar 151,0-153,0 (148,0-156,0)	1080-1090* ed-delivery s	** LDA 500	0,6 bar 120,0-123,0 (117,0-126,0) 0 bar 128,0-130,0 (125,0-133,0)		140,0-160,0 (136,0-164,0)	-	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

MB 21,9 b 1 - 2 -

Testatn

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure bar	Gauge pressure = bar	mm (1)
PE 12 PLS3819-2 +ROVPA 493	0,28	0,60 0 0,24	9,9-10,0 10,2-10,3 9,5-9,6 9,6-9,8

Notes

(1) when n =

rev/min and gauge pressure = bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps (2) and Governors

WPP 001/4 MB 21,9 a 5 1. Elition

PE 12 P 120 A 320 LS 3819-10 RQ 750 PA 635-2 company Daimler-Benz 1- 5- 9- 8- 3 - 4 - 11- 10- 2 - 6 - 7 - 12 0-15-60-75-120-135-180-195-240-255-300-315° $\stackrel{\leftarrow}{=}$ 0,5° ($\stackrel{\leftarrow}{=}$ 0,75°)_{engine} OM 424 LA Values only apply to test nozzle-and-holder Komb.-Nr. U 401 840 722 assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 067

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings -

Port closing at prestroke (3.95-4.15) mm (from BDC)Zy1. 12; RW = 9,0-12,0 mm

		,55 4,157				
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	12,4+0,1	20,2-20,4	0,5(0,8)			
300	4,9-5,1	1,4-2,0	0,8(1,2)			
		:				
L					İ	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

PRG che	Control rod travel	Full-load Setting po	•	_	cifications (4)	Idle sper Setting p			cifications 5 Control rod	Torque	Control rod	3
rev/min	mm	rev/min	mm	um .	rev/min	rev/min	mm	rev/min	mm	rev/min	mm	
1	2	3	4	5	6	7	8	9	10	11	12	
-	-	-	-	11,4 4,0 840	778-791	-	-	-		-	-	
on flyweig	ontrol travel ght assembly dime	nsion a =		mm	Spe	ed regula	ition: At	750-7	55 min ⁻¹		1 mm less co	ontrol travel

C. Settings for Fuel Injection Pump with Fitted Governor

	elivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	3 b	i rore opece		
rev/min 1	cm³/-1000 strokes	rev/min 3	rev/min 4	cm³/~1000 strokes		rev/min 6	Control rod travel cm ³ /1900 strokes:/ mm	
700	202,0-204,0 (199,0-207,0)	-	-	-		100	160,0-180,0 (156,0-184,0)	

Checking values in brackets

Test Specifications ① Fuel Injection Pumps 1 and Governors

WPP 001/4 MB 21,9 e 2

1. Edition

supersedes ROV 350-1150 PA 378-1 PE 12 P 110 A 320 LS 3820-1 company Daimler-Benz Komb.-Nr. 0 401 840 709 1- 5- 9- 8- 3 - 4 - 11- 10- 2 - 6 - 7 - 12 0-15-60-75-120-135-180-195-240-255-300-315° $\stackrel{\leftarrow}{=}$ 0,5° ($\stackrel{\leftarrow}{=}$ 0,75°) OM 424 309 kW

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Oifference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	11,4+0,1	12,2-12,4	0,4(0,8)			
350	7,7-7,9	1,4-2,0	0,4(0,7)			
] ,					

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s Degree of deflection of control lever	rev/min Contr⊲i rod travel mm	traver	Intermediate Degree of deflection of control lever	rev/min	Control rod travel mm 4	Lower rated Degree of deflection of control lever 7	speed rev/min 8	Control rod travel mm 3	Sliding s	mm
max. ca. 64	1200 10,4 4,0 1300	15,2-17, 1170-118 1235-126 0-1,0	30 55	_	-	ca. 19 375-485 ③	100 300	min.9,0 7,4-7,6	580	0,6-0,9 3,6-3,8 5,2-5,3 7,1

Torque control travel a =

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed 2b timitation intermediate speed			Starting Idle switchir	•	Torque- travel	Control cod
rev/min	cm³/1000 strokes	rev/min 4a	rev/min 4	cm ³ /1000 strokes 5	rev/min 6	cm³/1000 strokes 7	rev/min 3	mm 9
1150	122,0-124,0 (119,0-127,0)		600 1150	96,0-100,0 (93,0-103,0) 90,0-94,0 (87,0-97,0) **		130,0-140,0 (126,0-144,0)	•	-

Checking values in brackets

* 1 mm less control rod travel than col. 2

Set at the reduced-delivery stop.

Test Specifications Fuel Injection Pumps 2 and Governors

WPP 001/4 MB 18.3 e

1. Edition

PE 10 P 120 A 320 LS 3824-10 RQ 300/1050 PA 511-3

1-8-7-6-3-5-2-10-9-4

0-27-72-99-144-171-216-243-288-315° ± 0,5° (± 0,75 °)

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

supersedes Daimler-Benz company

OM 423 LA engine 368 kW

Komb.-Nr. 0 401 849 711

A. Fuel Injection Pump Settings

Port closing at prestroke

mm (from BDC)

Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes	Control rod travel mm 2	Fuel delivery cm³/100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
1150	11,7+0,1	18,3-18,5	0,5 (0,8		·	
300	5,0-5,2	1,6-2,2	0,8 (1,2			

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin PRG che	g of slider	Full-load : Setting po	•	_	cifications (4)	Idle spec	•		cifications (5)	Jorque	control (3)
rev/min	Control rod travel mm 2	rev/min 3	Control rod travel rnm 4	Control red travel rnm	rev/min	tev/min 7	Control red travel com	rev/min 9 .	Control rod travel	rev/min	Control rod
600	19,2-20,8	600	20,0		1195-1210	300	5,1		min.6,5	-	-
VH :	max. 46°			4,0 1350	1245-1275 0 - 1,0				5,0-5,2 400 = 2,0		
								<u> </u>		•	

Torque-control travel on flyweight assembly dimension a =

Speed regulation 1 A 95 - 1210 min -1

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

elivery on ontrol lever p. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	Starting fuel delivery Idle speed		
cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm³/-1000 strokes 5	rev/min 6	rod travel cm ³ /1000 strokes:/ mm 7	
0,7 bar 183,0-185,0 (180,0-188,0)	-	LDA 750	0,7 bar 186,0-192,0 (183,0-195,0)	100	150,0-170,0 (146,0-174,0)	
		LDA 500	0 bar 138,0-141,0 (135,0-144,0)			
	ontrol lever p. 40°C (104°F) cm³/-1000 strokes 2 0,7 bar 183,0-185,0	ontrol lever (2) (3a) cm³/-1000 strokes rev/min 3 0,7 bar - 183,0-185,0	ontrol lever p. 40°C (104°F) cm³/-1000 strokes rev/min rev/min 4 0,7 bar - LDA 750 (180,0-188,0)	Ontrol lever p. 40°C (104°F) cm³/-1000 strokes 2 rev/min 3 rev/min cm³/-1000 strokes 5 0,7 bar	Control lever	

Checking values in brackets

11.84

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MB 18,3 e 2 - 2 -

Test at n

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel difference
	Gauge pressure = bar	Gauge pressure bar	mm (1)
PE10PLS3824-10 + RQ PA 511-3	0,70	0 0,39 0,52	11,7-11,8 10,0-10,2 10,4-10,6 11,4-11,5

Notes

(1) when n

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Test Specifications Fuel Injection Pumps ① and Governors

WPP 001/4 MB 18,3 e 1

1. Edition

supersedes

PE 10 P 120 A 320 LS 3824-10 RQV 300-1150 PA 724
1-8-7-6-3-5-2-10-9-4
0-27-72-99-144-171-216-243-288-315° - 0.5° (-0.75°)
Values only apply to test nozzle-and-holder
assembly 1 688 901 019 and fuel-injection test
tubing 1 680 750 067

company Daimler-Benz engine OM 423 LA 368 kW Komb.-Nr. 0401849710

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed rev/min	Control rod travel	Fuel delivery cm ³ /100 strokes 3	Difference cm ³ / 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (*r ie-control valve) mm 6
1150	11,7+0,1	18,3-18,5	0,5 (0,8)			
300	5,0-5,2	1,6-2,2	0,8 (1,2)			
750	-	C, Sp. 4 u. 5	0,8 (1,2)			
500	-			ļ	_	

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Upper rated s	peed		Intermediate	rated sp	eed	Lower rated	speed	1	Sliding s	leeve travei
deflection of control	rev/min Control rod travel mm	Conîrol rod ta travel mm cev/min 28	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel	rev/min	
1	2	3	4	5	6		8	9	10	11
max.	1150	15,2-17,8		-	_	ca. 20	100	min.6,3	300	1,0-1,2
ca. 54	4,0	1245-1275				200 400	300	4,8-5,0	700	4,0-4,5 5,3-5,8
•	1300	0 - 1,5				300-400			1100	7,6
						3 9			لحبيا	

Torque control travel a = - mm

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load d Control-ro Test oil ter		Rotational-speed (2b) limitation intermediate speed	Fuel deli- high idle s	very characteristics 5a	Starting Idle switchin		Torque- travel	Control rod	
rev/min	cm³/1000 strokes	rev/min 4a	rev/min	cm ³ /1000 strokes	rev/min cm³/1000 strokes		rev/min	travel mm	
1	2	3	4	5	6	7	8	9	
LDA 1150	0,7 bar 183,0-185,0 (180,0-188,0		LDA 750	0,7 bar 186,0-192,0 (183,0-195,0)	100	150,0-170,0 (146,0-174,0)	-	-	
			LDA 500	0 bar 138,0-140,0 (135,0-143,0)					

Checking values in brackets

* 1 mm less control rod travel than col. 2

11.84

BOSCH

MB 18,3 e 1

- 2 -

Test	at	n	

500 rev/min decreasing pressure - in bar gauge pressure

Pump/governor Setting				
PE 10PLS3824-10 0,70 11,7-11,8 10,0-10,2 0,39 10,4-10,6	Pump/governor	Setting	Measurement	Control rod travel-
+ RQV PA 724 0 10,0-10,2 0,39 10,4-10,6		Gauge pressure bar	Gauge pressure a bar	mm (1)
		0,70	0,39	10,0-10,2 10,4-10,6

Notes

(1) when n =

rev/min and gauge pressure =

bar (= maximum full-load control rod travel)

Testoil-ISO 4113

Test Specifications Fuel Injection Pumps and Governors

WPP 001/4 SCA 11.0 u 4 5. Edition

RSV 350-1100 P 1/481 PF 6 P 120 A 720 RS 7001

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015

supersedes5.83 company Saab-Scania DS 1140, 41, 42 DSI11 40, 44 Komb.-Nr. 0 402 676 800

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Rotational speed	Control rod travel	Fuel delivery	Difference cm ³ /	Control rod travel	Fuel delivery	Spring pre-tensioning (torque-control valve)
ev/min	mm	cm³/100 strokes	100 strokes	mm	cm ³ /100 strokes	mm
1 	2	3	4	2	3	6
700	13,2+0,1	19,9 - 20,1	0,6(0,9)			$3,3 \pm 0,1$
350	4,4-4,6	1,3 - 1,7	0,3(0,6)			(3,0 - 3,5)**
			1			

Adjust the fuel delivery from each outlet according to the values in Due to smoothing of the sealing edge, the initial spring tension with a new delivery-valve holder must be adjusted to 2,9-3-1 nm B. Governor Settings

Upper	rated speed		Intermediate	e rated spe	ed	4 Lower	rated spe	ed	(3) To	que control
Degree of deflection of control lever	rev/min	Control rod travei mm	Degree of deflection of control lever	rev/min	Control rod travel	Degree of deflection of control lever	rev/min	Control rod travel mm	rev/min	Control rod travel mm
1	2	3	4	5	6	7	8	9	10	11
lose	800	0,3 - 1,0	-	-	•	ca. 28	350	4,0	_	-
	x =	5,5	ļ				250			
ca.64	12,2 4,0 1300	1090-1100 1170-1200 0,3-1,7					350 4 30-	4,4-4,6 490 =2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

2 Full-li	ad stop	6 Rotational- speed limitat		el delivery aracteristics	Starting Idle	fuel delivery	(5a) Idi	e stop
Test oil tem rev/min	p. 40°C (104°F) cm³/1000 strakes	Note: changed to rev/min	rev/min	cm ³ /1000 strokes	rev/min	cm ³ /1000 strokes	rev/min	Control rod travel mm
1	2	3	4	5	6		l°	9
7 00	199 ,0-201,0 (196 ,0-204,0	1090-1100*	10 00	193,0-201,0 (190,0-204,0		240,0-290,0 = 20,0 - 21,0 mm RW	-	-
	ļ	j	İ					<u> </u>

Checking values in brackets

* 1 mm less control rod travel than col. 2

SUPPLEMENTARY INFORMATION

- Checking and adjustment without a ROBO diaphragm
- For combination with letter index see VDT-I-400/116
- For sealing, see VDT-I-400/117
- Test specifications approved by Scania on Aug. 18. 1983
- Start of fuel delivery-engine: DS $11-17^{\circ}$ before TDC; DSI $11-16^{\circ}$ before TDC
- Firing sequence, engine : 1-5-3-6-2-4
- ** Due to smoothing of the sealing edge, the spring tension with a new delivery-valve holder must be adjusted 70 2,9 3,1 mm.

Test Specifications
Fuel Injection Pumps ②
and Governors

40

WPP 001/4 SCA 11,0 u 7 3. Edition

<u>En</u>

toil-ISO 4113

PE 6 P 120 A 720 RS 7001 RQ 200/1000 PA 615 Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015

supersedes 5.83
company Scania
engine DN 1106, 07

Komb.-Nr. 0 402 646 80

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings 5.0 - 5.1

Port closing at prestroke (4.95 - 5.15)

mm (from BDC)

Rotational speed rev/min	Control rod travel mm	Fuel delivery cm³/100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
6 00 225	11,3+0,1					$3,3 \stackrel{+}{-} 0,1$ $(3,0 - 3,5)$
						••

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checking PRG che rev/min 1	Control rod travel	Full-load s Setting po rev/min 3		Test spec Control rod travel	rev/min	tdle spec Setting p rev/min 7	Control rod travel	Test spe	cifications 5 Control rod travel mm	rev/min	Control rod travel
600	15,6-16,4	600	16,0		1090-1120	225	4,5	225	min. 5,9 4,4-4,6 40 = 2,0	-	-

Torque-control travel on flyweight assembly dimension a =

mm

Speed regulation. A045-1060 min⁻¹

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

	efivery on control lever np. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics	Starting l	Control
rev/min	cm³/-1000 strokes 2	rev/min 3	rev/min 4	cm ³ /-1000 strokes 5	rev/min 6	cm ³ /1000 strokes:/ mm
600	157,0-159,0 (154,0-162,0)	-	1000	154,0-162,0 (152,0-164,0)	100	240,0-290,0 = 20,0-21,0 mm RW

Checking values in brackets

SUPPLEMENTARY INFORMATION

- Checking and adjustment without a ROBO diaphragm
- For combination with letter index see VDT-I-400/116
- For sealing, see VDT-I-400/117
- Test specifications approved by Scania on 18.8.1983
- Start of fuel delivery-engine: 18° before TDC
- Firing sequence, engine : 1-5-3-6-2-4
- ** Due to smoothing of the sealing edge, the spring tension with a new delivery-valve holder must be adjusted 70 3,0 3,1 mm.

Test Specifications Fuel Injection Pumps (2) and Governors

40

WPP 001/4 SCA 11,0 u 11

1. Edition

PE 6 P 120 A 720 RS 7001

RQ 200/1100 PA 713

Komb.-Nr. 0 402 646 819

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015

supersedes Scania

company DS 11 25,26

All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers

A. Fuel Injection Pump Settings

Port closing at prestroke

(4.95-5.15)

mm (from BDC)

		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	(
Rotational speed rev/min	Control rod travel mm 2	Fuel delivery cm ³ /100 strokes 3	Difference cm³/ 100 strokes 4	Control rod travel mm	Fuel delivery cm ³ /100 strokes 3	Spring pre-tensioning (torque-control valve) mm 6
700	11,7+0,1	16,1-16,3	0,6(0,9)			3,3 [±] 0,1
225	4,4-4,6	1,1-1,5	0,3(0,6)			(3,0-3,5)
						**

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

Checkin	g of slider	Full-load s	•	•	cifications (4	Idle spec	•		cifications (5)	Torque o	
rev/min 1	Control rod travel mm 2		Control rod travel rrim 4	Control rod travel mm 5	rev/min		Control rod travel		Control rod travel mm	rev/min	Control rod travel mm
1300	15,2-17,8	1300	16,5	10,7 4,0 1400		þ	4,5	225	min.5,9 4,4-4,6 340=2,0	-	-

Torque control travel on flyweight assembly dimension a =

mm

1145-1160 min⁻¹

1 mm less control rod travel

C. Settings for Fuel Injection Pump with Fitted Governor

governor	delivery on control lever mp. 40°C (104°F)	Control rod stop 3a	Fuel deliv	ery characteristics (3b)	Starting fuel delivery Idle speed		
rev/min	cm³/-1000 strokes	rev/min 3	rev/min 4	cm ³ /~1000 strokes 5	rev/min	Control rod travel cm3/1000 strokes:/ mm	
LDA 700	0,5 bar 161,0-163,0 (158,0-166,0)	-	LDA 1100 LDA 500	0,5 bar 163,0-171,0 (161,0-173,0) 0 bar 120,0-124,0 (118,0-126,0)	100	240,0-290,0 =20,0-21,0 mm RW	

Checking values in brackets

SCA 11,0 u 11 -2-

Testatn =

500

rev/min decreasing pressure - in bar gauge pressure

Pump/governor	Setting	Measurement	diminution Control rod travel- difference
	Gauge pressure = bar	Gauge pressure = bar	mm (1)
PE 6 P RS 7001 +RQ PA 713	0,50	0 0,28 0,20	11,7-11,8 10,5-10,6 11,4-11,5 10,6-10,8

Notes

(1) when n =

rev/min and gauge pressure - bar (- maximum full-load control rod travel)

SUPPLEMENTARY INFORMATION

- Checking and adjustment without a ROBO diaphragm
- For combination with letter index see VDT-I-400/116
- For sealing, see VDT-I-400/117
- Test specifications approved by Scania on 17.5.1984
- DS 11 25 15° before TDC DS 11 26 11° before TDC - Start of fuel delivery-engine : DS 11

- Firing sequence, engine

: 1 - 5 - 3 - 6 - 2 - 4

** Due to smoothing of the sealing edge, the spring tension with a new delivery-valve holder must be adjusted to 2,9 - 3,1 mm.

Test Specifications Fuel Injection Pumps (1A) and Governors

WPP 001/4 SCA 14,2 c 1

1. Edition

PE 8 P 120 A 920/4 LS 7002 RSV 350-1100 P 1/481

1 - 2 - 7 - 3 - 4 - 5 - 6 - 8 je $45^{\circ} \pm 0.5^{\circ} (\pm 0.75^{\circ})$

Values only apply to test nozzle-and-holder assembly 1 688 901 019 and fuel-injection test tubing 1 680 750 015
All test specifications are valid for Bosch Fuel Injection Pump Test Benches and Testers supersedes Saab-Scania-Brasilien DS 14 "Romb.-Nr. 9 400 087 287

A. Fuel Injection Bump Settings

Port closing at prestroke

(4.95-5.15)

mm (from BDG) RW = 9.0 - 12.0 mm

Rotational speed	Control rod travel	Fuel delivery	Difference	Control rord travel	Fuel delivery	Spring pre tensioning (torque control valve)		
rev/min	mm (2)	cm*/100 strokes	cm // t00 strokes	mm	cm:/100 strokes	mm		
700	13,2+0,1	18,7-18,9	0,6(0,9)		3	3,3 [±] 0,1		
350	4,4-4,6	1,4-1,8	0,3(0,6)			(3,0-3,5)		
	Due to si	noothing of the w delivery-va	e sealing e ve holder	dge, the in	itial spring busted to 2,9-	** tension B-1 nm		

Adjust the fuel delivery from each outlet according to the values in

B. Governor Settings

1 Upper rated speed rev/min			Intermediate rated speed			4	t ower	3 Torque control		
Degree of deflection of control lever	Control rod travel mm	Control rod travel mm rev/min 3	4	5	6	Control fever deflection in degrees 7	rev/min 8	Control rod travel mm 9	rev/min	Control rod travel mm
lose	800	0,3-1,0	-			ca. 30	350	4,0	•	-
	x = 6,0						350	4,4-4,6		
ca. 66	12,2 4,0 1370	1140-1150 1210-1240 0,3-1,7					440-5	00 = 2,0		

The numbers denote the sequence of the tests

C. Settings for Fuel Injection Pump with Fitted Governor

Full-load stop		Rotational- speed limitat	Ga Fuel delivery characteristics		Starting fuel delivery 5		4a) Idle stop	
rev/min	cm ¹ /100⊖ strokes	changed to) rev/min 3	rev/min	cm ¹ /1000 strokes 5	rev/min	cm1/1000 strokes	rev/min 8	travel mm 9
700	187,0-189,0 (184,0-192,0)	1140-1150	1000	183,0-191,0 (182,0-193,0)	100 350	240,0-290 =20,0- 21,0 mm RW 14,0-18,		-

Checking values in brackets

* 1 mm less control rod travel than col 2